

Professor Haenen

With the Author's Compliments

NOTES

TOWARDS

OUTLINES

OF

Materia Medica and Therapeutics:

SYSTEMATIC AND PRACTICAL.

BY

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PREFATORY NOTICE.

IT is a common observation among Medical Students, that the *Materia Medica* is the driest and the most difficult to get up of any of the branches comprised in their curriculum of professional study. To a certain extent this is inherent in the nature of the subject. But it has long appeared to the Writer of these Notes, that, by combining the *Materia Medica* more largely than has of late years been customary in our medical schools, with the facts and principles of Therapeutics, and with those of Physiology, Pathology, and Practice of Medicine,—that is, by connecting, at every step, its own proper details with their scientific relations and their practical applications, much may be done towards rendering it one of the most interesting. Embracing indeed, as it does, an endless number and an infinite variety of minute and perplexing details, it is only, he believes, on some such plan that the *Materia Medica* can be so taught as at once to engage the interest of the student, and effectually secure his recollection of those details.

It was in this belief, and with a view to the publication of a short elementary treatise on this plan, that the following Notes were long ago prepared. And they are

submitted in their present form—imperfect as they are, and fragmentary—in attestation of that intention, and to indicate the manner in which, if a teacher of the *Materia Medica*, the writer would consider it his duty to impart instruction in it to his pupils.

The Writer may perhaps be permitted to add, that it was on an essentially similar plan that, in the last century, the celebrated Dr. Cullen taught this department of medical science in the University of Edinburgh; and that his “*Treatise of the Materia Medica*,” although now (by reason of the advances which have since then been made in Chemistry, and in Physiology, and Pathology) very defective, and of little value in its theoretical parts, may still be referred to as in its general plan, and in its thoroughly *practical* character, a model to be adopted by any teacher of this branch.

CONTENTS.

PART I.

	PAGE
INTRODUCTORY	7

PART II.

MATERIA MEDICA AND THERAPEUTICS, SYSTEMATICALLY CONSIDERED .	23
--	----

PART III.

MATERIA MEDICA AND THERAPEUTICS, PRACTICALLY CONSIDERED	29
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NOTES, &c.

PART I.

INTRODUCTORY.

CHAPTER I.

Preliminary Observations—Objects of Medicine as an Art—Association of Nature with this Art in the Prevention and Cure of Diseases—What requisite in order to a clear Perception of the *Objects*, and to a just Estimate of the *Results* of Medical Practice.

THE object for which medicine is followed as a profession or calling, is, the prevention, the cure, the alleviation of human suffering and disease. But in the accomplishing of this object, not Art alone, but Nature also, is concerned—nay, nor yet Art chiefly, but Nature chiefly; Art being, in point of fact, subordinate to Nature, auxiliary to her—her handmaid and helper. It is essential, therefore, to all truly scientific, and to all really satisfactory practice, clearly to understand what is Nature's share in this work; what she can do, and actually does in it; what she is incapable of doing, and fails to do. And this requires a knowledge of the general nature of diseases and of the conditions under which they occur; of the natural course or progress of diseases, and of the issues to which they lead. It requires especially a knowledge of the natural *tendencies* of diseases, whether favourable or unfavourable, and of the modes of dying

and healing, as occurring spontaneously; and likewise of the normal powers and conditions of vitality, as illustrative as well of the nature of diseases and the mode of action of their exciting causes as of the manner of their spontaneous cure, or their spontaneous termination in death,—or in permanent and irremediable lesion of some part or organ.

Such knowledge is essential, because indispensable to a right judgment of the *objects*, and to a correct estimate of the *results* of actual treatment. For the real objects of all truly scientific practice must ever be, on the one hand, to aid or promote the favourable tendencies of diseases and the provisions of nature for their spontaneous cure, and, on the other hand, to obviate those that are unfavourable,—and above all, the tendency to death itself. And in the event of recovery, it is always satisfactory and often very important to determine, as far as can be done, how much has been due to Nature and how much to Art—whether Nature was duly aided by Art, or positively thwarted by her. Nor, in the event of a fatal issue, is it of less consequence or less interest to determine whether the result was really inevitable; whether the tendency thereto was adequately met; or may not even have been promoted or created by the treatment employed.

We are exceedingly apt to deceive ourselves in our judgment of the results of medical practice, and are in fact continually deceiving ourselves—taking credit where none is due, and even where blame is merited, or wrongfully ascribing to Nature the obstinacy or the fatal event of diseases. For not all the cases we speak of as cures were cured by us. Many of them would doubtless have recovered, as well and as soon without, as with our aid. Not a few of them, peradventure, have got well in spite of wrong treatment, and would have done so all the sooner had they been left to Nature. And it is to be feared that not all the deaths that happen in medical practice, nor all the abiding and often painfully distressing effects of diseases, are exclusively referable to Nature.

So important, therefore, to right conduct in practice, and to a just appreciation of its real value, is a clear understanding of

the whole natural history of diseases, and of the laws and conditions of vitality in its healthy state; and so directly does our knowledge of these subjects connect itself with all questions as to the action, and the application, and the effects of remedies, that, although strictly belonging to physiology and pathology, a brief exposition of them may yet be regarded as forming a fitting and even a necessary introduction to the study of the *Materia Medica*, and of *Therapeutics*. And accordingly, in treating of this department of medical science, we premise some account of the leading facts which belong to the subjects of life, health, and disease—referring to these facts, however, and using, and applying, and reasoning from them with that view, as truths that are already known, and do not themselves require any formal or detailed consideration.

CHAPTER II.

Of the leading Facts in regard to the Subjects of Life, Health, and Disease, which more immediately connect themselves with those of Materia Medica and Therapeutics.

§ 1.

OF Life or Vitality, as the exercise of certain *powers* inherent in the living body, acting under certain *conditions* in order to the attainment of certain *ends*, and giving rise to certain *phenomena*;—or of life considered in relation to its objects, its manifestations, its conditions, and its powers.

Using the word *process*, as at once including the notion of vital power (or the *capacity* of vital action), of the conditions requisite for the exercise of this power (called often vital *stimuli*), and of the resulting *action*, it may be observed that the most general and fundamental of the vital processes, continually in operation in the living body, are the *chemical* and the *plastic*, or those by which the several organic compounds are formed, and contemporaneously transformed into the various organised structures of which the body consists, and by which, also, in the *tourbillon vital* of the body, these compounds and structures are subsequently disintegrated and resolved into inorganic matter and cast off. It is these processes of *constructive* and *retrogressive* assimilation, which involve alike the blood and the tissues, the agency of oxygen, the supply of suitable materials from without, and a certain temperature, that are concerned in all that is essential in the vital actions of circulation, of nutrition and secretion, of absorption and excretion, of respiration and animal heat. And it is in abnormal aberrations or deflections of these processes that the far greater number of diseases consist, whether

arising from causes acting primarily on the vital powers themselves, or from causes more immediately affecting the conditions essential to the exercise of these powers, or otherwise controlling or influencing them. Local congestions, or determinations of blood, hæmorrhages, serous or dropsical effusions and fluxes, inflammation and its products, retained or excessive, or perverted secretions, abnormal nutrition and heterologous deposits (hypertrophy, atrophy, transformation of tissue, tubercle, cancer, hydatids, &c.), all come under this head.

Less general, and more immediately subservient to the main objects of animal life, but concerned also in the processes already mentioned, either as directly participating in them, or as capable of influencing them, are the vital powers of *contractility* inherent in the muscular system, and of *nervous agency* (or *innervation*) inherent in the nervous system; and both which, when acting under their appropriate conditions (or stimuli), give rise to the involuntary and the voluntary, the reflex and the instinctive movements, and to the mental operations of sensation and thought, of emotion and volition. From abnormal affections of these two powers many important diseases proceed.

Of the *conditions* of vitality, considered in themselves, those that more directly bear on the purpose here in view are those relating to the supply of nutriment from without—to air, and light, and temperature. And of the vital *actions*, those on which the maintenance of vitality is more immediately dependent, and by the affection or instrumentality of which the spontaneous cure or the fatal event of diseases is more immediately brought about, and which, therefore, peculiarly demand attention here, are those of circulation, nutrition and secretion, absorption, excretion, and respiration.

§ 2.

Of Health and Disease as *relative* states of the living body, relative modes of action of its vital powers, relative manifestations of its vital actions. In both, it is the same vital powers that are in operation, the same vital actions that are exerted, the

same vital phenomena that appear — normally in the one, abnormally in the other; the normal and the abnormal, however, passing so gradually the one into the other, as to nullify all attempts, rigorously or logically, to define either.

The living body is so constituted as to *tend* always to act agreeably to the manner intended by nature; and when so acting the state of health obtains. It is so constituted, however, as to be *liable* to act otherwise; and when thus acting, to such an extent or in such a way “as to cause suffering or inconvenience, or to endanger life,” disease obtains.* Conversely, the circumstances in which the body is placed are, for the most part, in harmony with its constitution, and with the appointed modes and ends of its action. Nevertheless, they are such that they may, as they often do, act injuriously on it; and, in fact, the most general of the external or exciting causes of our diseases are those “which result from the very conditions of our existence.”

The states of health and disease, therefore, are not diametrically different things, not fundamentally opposite the one from the other. In all cases disease is primarily an affection of vital power modifying vital action, and showing itself by a modification of vital phenomena. But it is an affection, modification, and manifestation of the same phenomena, the same actions, and the same powers which are natural to the body, and which, when acting and manifesting their action naturally, constitute the state or condition of health. The vital powers, and the resulting actions and phenomena, may be very variously affected and widely diversified in their manifestations and in their acting; but the state of disease implies no affection of any new or additional power, no modifications even of actions or of phenomena other than those which attach to the state of health. And a clear conception of the true relation in which the two states of health and disease stand towards each other, while it will conduce to clearer apprehensions of what they both are, will show how futile it is to seek to define them otherwise than in very general and relative terms.

* ALISON'S “Outlines of Pathology and Practice of Medicine.”

§ 3.

The simplest exemplification of the diseased states to which the living body is liable, is to be found in the natural history of cases of Sudden Death, and of Violent Injuries, Poisoning, Drowning, and such-like. And indeed the whole science of disease, as well as the first principles of physiology and of therapeutics, admit of illustration by a reference to these "simplest cases in pathology."

The cases in question, occurring in persons previously in perfect health, can, indeed, scarcely be said to be cases of disease. At least if they are to be so regarded, they are cases of the least complex kinds and forms of it. The changes intervening between the application of the external cause and the fatal event, or the consummation of the effect which rapidly follows, must necessarily be *few* in number and *simple* in their character. The symptoms, too, accompanying the internal changes are equally few and simple, and for the most part characteristic. And the relation subsisting between the external causes and the effects which they produce on the vital organs, has nothing occult in it, but is direct and palpable and open to the observation of every one.

It is widely different with most diseases. Arising often from unseen or inappreciable causes, and often terminating fatally in modes that are complex and obscure, they extend over a longer period of time, consist of a longer series and a greater variety of internal changes, involving many of the vital actions, and showing themselves by symptoms which vary with their progress, and are modified by the circumstances of individual patients. Amid such a multiplicity and diversity of changes, it is often exceedingly difficult to discriminate between the *essential* and the *incidental*, to trace the connexion between causes and their effects, or to acquire clear notions of the real nature or the true import of the phenomena that we witness.

This being the case, it is easy to understand that we should often be unable, from the observation of diseases themselves, to

form a correct judgment of the nature of many diseases which come before us in actual practice. But this difficulty may often be greatly obviated or entirely removed by a careful comparison of diseases, with the known effects of violent or rapidly fatal injuries, such as sudden concussion or compression of the brain, poisoning, profuse hæmorrhage, starvation, drowning, lightning-strokes, the sudden application of intense heat or of intense cold, &c.,—these simple cases furnishing us with facts and principles, or with analogies and illustrations that admit of an easy and direct application to morbid processes and morbid phenomena.

It is greatly to be regretted that this most interesting and instructive department of medical science, which may be said to occupy a middle ground between physiology and pathology, should have hitherto received but comparatively little attention from systematic writers and teachers. Dr. Alison and Dr. Latham, however, have fully appreciated its importance; and the former of these writers has treated it systematically and in detail in his "Outlines of Pathology and Practice of Medicine," making it, in fact, the introduction to that admirable work.

CHAPTER III.

Of the Natural History of Diseases—Their Modes of Favourable and of Fatal Termination, as occurring spontaneously—And of the Curative Powers and Provisions of Nature.

§ 1.

OF THE GENERAL NATURE OF DISEASES.

DISTINCTION to be drawn between the pathological and the nosological meanings of the term Disease—a distinction corresponding to that in physiology between vital *actions* or processes and vital *phenomena*. Pathologically considered, disease is an abnormal affection of some one or more of the vital *powers*, modifying more or fewer of the resulting vital *actions*. And the attendant modifications of vital phenomena are regarded and spoken of as the *symptoms* of that affection. Nosologically considered, disease is a *combination* and *succession* of abnormally modified vital *phenomena*, the result of abnormally modified vital action,—the latter, in this point of view, being regarded and often technically called, particularly by the older writers, the *proximate cause* of the disease.

Pathological states, or morbid processes, and nosological diseases, not always coincident; the same diseased state being often attended by very various symptoms; and, conversely, the same combination of symptoms being often attendant on widely different diseased states.

As medical science has advanced, this discrepancy has been lessened, and there is reason to hope will be still farther

diminished as the science advances ; but we see enough to make it probable that it never will or can be altogether removed.

(1.) *Of Symptoms ; and of Diseases considered Nosologically.*

Symptoms are either uneasy or altered natural sensations, or alterations in the sensible qualities of some part or parts of the living body, or appreciable modifications in the actions of its different parts. This definition wide enough to include also what some writers designate the *physical signs* of disease.

i. Of certain combinations and successions of symptoms, as applied both to the purposes of nosology and to the diagnosis and the prognosis of individual cases of disease.

ii. Of certain combinations and successions of symptoms distinct from those on which any nosological arrangements are founded ; distinct also from those on which the differential diagnosis of diseases is founded ; but of the highest practical importance in many cases in which the real nature or the precise seat of the disease cannot be determined, or is doubtful—*e. g.* such combinations as we express by the terms *typhoid tendency, inflammatory tendency, tendency to syncope or asthenia, tendency to coma or to asphyxia, hæmorrhagic tendency, cachectic tendency, scorbutic tendency*, and such-like.* In such cases, a clear perception of the *import* of these various combinations, common to many and very different diseases, will often guide the practitioner aright in his treatment of them, and in his judgment of their probable issue.

(2.) *Of Diseased Actions or Morbid Processes ; and of Diseases considered Pathologically.*

i. Distinction between pathology and morbid anatomy. Pathology the science of diseased actions, not of diseased structures : all organic lesions the result of pre-existing diseased actions ; many diseases unattended, throughout, with any appreciable change of structure, and proving fatal without leaving any morbid appearances behind them in the dead body.

ii. Of the ultimate or proximate elements of morbid actions or processes. These elements referable to changes in the vital

* ALISON'S "Outlines of Pathology and Practice of Medicine."

powers, induced by the exciting causes of diseases,—changes in the *chemical* and in the *plastic affinities*, and in the vital properties of *contractility* and of *nervous agency*. Difficulty in satisfactorily prosecuting this department of pathology: great progress made in it, however, of late years, and still greater yet to be expected.

iii. Most diseases involve, or consist in *combinations* of different kinds and degrees of these proximate elements of morbid action; and as well in a scientific as in a practical point of view, it is these combinations that we chiefly regard. Distinctions of diseases, founded on this large and more accessible view of them, into acute and chronic, or febrile and non-febrile; and of the acute or febrile into the *inflammations*, strictly so called, and the *idiopathic* febrile diseases; and, again, of the chronic or non-febrile into the *functional* and the *organic*,—each of these last admitting of several subdivisions, and including the hæmorrhages, the dropsies, nervous disorders, &c.

§ 2.

OF THE NATURAL COURSE, PROGRESS, AND TERMINATIONS OF DISEASES.

We treat here more particularly of the natural *tendencies* of diseases, whether favourable or unfavourable, and of the modes of dying and healing, as occurring spontaneously. And, as directly connected with this part of the natural history of diseases, we treat here also of the powers and conditions of vitality, as illustrative as well of the natural cure as of the naturally fatal event of diseases.

(1.) *Of the favourable tendencies and modes of favourable termination of diseases, together with the provisions of nature for their spontaneous cure.*

i. Of the *temporary* duration of all diseased action as a general fact, and of the degree or intensity of most kinds of diseased action being, while they last, within the limits of safety or of the powers of endurance of the living body,—best

exemplified in the idiopathic febrile diseases, but exhibited also in the inflammations, and in many chronic diseases of a functional character.

It was formerly remarked, that while the living body is so constituted as to be liable to act abnormally, it is yet so constituted as to tend always to act in the manner designed by nature. And to this it may be added, as furnishing the explanation of the *temporary* character of diseased action, that the tendency in question continues to be exerted even when the body is acting abnormally.

ii. Of the modes and processes whereby the weakening effects or the positive lesions of diseases are repaired or overcome.

a. Spontaneous recovery of strength and vigour, after the subsidence of the disease, through the restoration of the natural actions of digestion and nutrition, exercise in the open air, gentle mental excitement, &c.

b. Removal of morbid effusions by the natural action of absorption,—of lymph by conversion into pus, and the discharge of this,—and of the adhesive, ulcerative, and even the sloughing processes, and of the process of granulation, as curative provisions of nature.

c. Of the provisions for the spontaneous subsidence of hæmorrhagic effusions, and for the healing of the ruptured vessels, as well as for the removal of effused blood from the parenchyma of organs, or from the shut cavities of the body.

d. Of muscular hypertrophy, as a provision of nature for obviating the effects of certain permanent lesions, particularly in the case of the heart; and, in the case of double organs, *e.g.* the kidneys, of the preternatural development of the sound organ and increased activity in its function to compensate for the lesion of the other.

e. Of the more important of the *regimens*, *e.g.* the antiphlogistic or the tonic, or the combination of these two, through which the curative operations of nature are greatly promoted, being *instinctively* adopted by invalids, and therefore, as thus imposed on them, rightly to be included among the provisions of nature for the spontaneous cure of diseases, &c.

(2.) *Of the unfavourable tendencies and modes of fatal termination of diseases.*

- i. Of death and the tendency thereto in the way of *Coma*.
- ii. Of death and the tendency thereto in the way of *Asphyxia*.
- iii. Of death and the tendency thereto in the way of—
 (When occurring suddenly) *Syncope*.
 (When occurring gradually) *Asthenia*.
- iv. Of *combinations* in the modes of death, and in the tendencies thereto, now enumerated.

The physiology of these several modes of dying; the circumstances under which they occur in the course of various diseases; means by which in certain cases they may be counteracted; and of obviating the tendency to death, and watching for the earliest indications of this tendency with that view,—while mainly relying on nature for the cure of the disease, as the most important practical object to be attended to in the treatment of many diseases: *e.g.* An hospital surgeon, making his round one morning, came to the bedside of a patient admitted the previous day, whom he found to be labouring under acute laryngitis. Before quitting him he performed the operation of laryngotomy, remarking to the pupils that, although the case scarcely seemed to call for it, and might never really do so, he had thought it his duty to perform the operation,—because such an aggravation of the disease *might* at any time supervene as would prove fatal before assistance could be procured. He had obviated that contingency, and having secured the safety of his patient, should now have no anxiety about the case, and would probably require to do nothing more for it, as the laryngitis would no doubt quickly subside of its own accord.

CHAPTER IV.

Of the Preservation of Health and the Prevention of Disease—
Or, of Hygiene and Prophylaxis.

THESE two branches coincident in their practical object: they differ only in their regarding that object from different points of view. The one embraces an inquiry into the remote or external causes of diseases, with a view to the *avoidance* of those causes by individuals and communities; the other, an inquiry into the positive conditions of life and health, with a view to the *observance* of those conditions by individuals and communities.

The subject of Hygiene has very generally been considered as forming an integral part of the *Materia Medica*, while that of Prophylaxis has been regarded as properly belonging to the department of Pathology and Practice of Medicine. But the same reason which excludes the latter from the *Materia Medica* is sufficient to exclude the former also, and to transfer it to the department of Physiology.

In the outline here given of the subjects of Life, Health, and Disease, both branches will be treated of, and in the same general way.

§ 1.

OF THE REMOTE OR EXTERNAL CAUSES OF DISEASE.

There is a well-known and just distinction of these into the *predisposing* and the *exciting*.

(1.) Of the *predisposition* to disease, as a *state* or *condition* of the living body itself, often innate and congenital, and trans-

mitted hereditarily, at other times gradually induced through the agency of certain causes external to the body, and which causes, in consequence of their action being thus limited, are designated predisposing. Enumeration and consideration of the more important of these causes.

(2.) Of the division of the exciting causes, or those to which the production of diseases is more immediately referable, into those which may be said to be *constantly* and *everywhere* in operation, and into those which are of *local* and *temporary* operation only, or into the *common* and the *specific*. Alternations of temperature (cold) an example of the former class; malaria, and the poison of small-pox, examples of the latter. Distinctions among diseases, arising out of these differences in their exciting causes, into contagious and non-contagious, epidemic, endemic, &c. Enumeration and consideration of the more important exciting causes, both common and specific.

Importance of attention to the fact that, very frequently, the *combined* or *concurrent* agency of causes belonging to every one of the classes mentioned—predisposing, common, and specific—is concerned in the production of disease, and in many cases seems to be nearly essential, in order to its excitation.

Of the importance, in a *national* point of view, of this whole department of inquiry.

§ 2.

OF THE POSITIVE CONDITIONS OF LIFE AND HEALTH.

Of the conditions of life and health, considered as “organic laws,” to the infringement of which *penalties* are annexed. These penalties being exacted *indifferently* from all, or without favour or distinction, and *uniformly*, or without remission.

Enumeration and consideration of the more important of these conditions—regard being had to both parts of man’s constitution.

1. Of food and raiment.
2. Of heat and light.

3. Of air and exercise.
4. Of rest and sleep.
5. Of washing and cleanliness.
6. Of work and recreation.
7. Of house and shelter.
8. Of sobriety and temperance.

PART II.

MATERIA MEDICA AND THERAPEUTICS, SYSTEMATICALLY CONSIDERED.

CHAPTER I.

OF THE ACTION OF REMEDIES IN GENERAL.

WHAT we understand by the term remedy in relation to disease, and as distinguished from the curative powers inherent in the living body itself. Not alone the substances comprised in the pharmacopœia, and called medicines, but all means external to the body, and all modes of acting upon it artificially, of whatever kind and in whatever way, by the use and application of which the diseased actions of the living body may be beneficially controlled and thereby removed or relieved.

Of the *evidence* we have of the *efficacy* of remedies in the cure and the alleviation of diseases; of the *sources* of *fallacy* in our estimate of their efficacy; and, generally, of the *kind* and *degree* of efficacy which we are warranted in ascribing to them.

Of the *physiological* action of remedies, or their action on the *healthy* body; of the *indications* thence arising for their application in disease; and of the *cautions* requisite in the application of them from the danger or inconvenience known to attach to their action on the system.*

The mode of action of many remedies obscure; that of some altogether unknown, their efficacy being known to us only from *experience*, and not referable to any general principle deducible from the laws of the animal economy. These last designated

* ALISON'S "Heads of Lectures on Therapeutics."

specifics ; the power of quinine over the intermittent fever an example of this class of remedies.

Of the *classification* of remedies. Difficulties attaching to it from differences in the action of remedies under different circumstances, and from other causes. Every classification more or less arbitrary and imperfect. That here followed based on the parts and actions of the living body, which the remedies to be considered appear chiefly or primarily to affect, and are used mostly with the intention of affecting.

CHAPTER II.

Of the Remedies which act primarily or chiefly—and are used mostly with the intention of affecting and influencing—the more strictly Vital Processes and the Vital Organs.

GENERAL view of the states or conditions of the body, and of the vital organs and their functions in particular, which demand or indicate the use of remedies belonging to this division.

I. Of Stimulants.

1. Of stimulants in general.
2. Of particular stimulants.

II. Of Sedatives.

1. Of sedatives in general.
2. Of particular sedatives.
Of the *Antiphlogistic regimen*.
Of *Bloodletting*, general and local.

III. Of Derivants.

1. Of derivants in general.
2. Of particular derivants.

IV. Of Purgatives.

1. Of purgatives in general.
2. Of particular purgatives.

V. Of Emetics.

1. Of emetics in general.
2. Of particular emetics.

VI. Of Anthelmintics.

1. Of anthelmintics in general.
2. Of particular anthelmintics.

VII. Of Antacids and Carminatives.

1. Of antacids and carminatives in general.
2. Of particular antacids and carminatives.

VIII. Of Tonics.

1. Of tonics in general.
 2. Of particular tonics.
- Of the *Tonic regimen*.

Of the *combination* of the tonic and the antiphlogistic regimens proper in many diseases, and in different stages or circumstances of the same disease.

IX. Of Alteratives, Deobstruents, and Sorbefacients.

1. Of the general action of this class of remedies.
2. Of particular alteratives, deobstruents, and sorbefacients.

X. Of Diuretics.

1. Of diuretics in general.
2. Of particular diuretics.

XI. Of Sudorifics.

1. Of sudorifics in general.
2. Of particular sudorifics.

XII. Of Emmenagogues.

1. Of emmenagogues in general.
2. Of particular emmenagogues.

XIII. Of Astringents.

1. Of astringents in general.
2. Of particular astringents.

XIV. Of Expectorants.

1. Of expectorants in general.
2. Of particular expectorants.

XV. Of Errhines and Sialogogues.

1. Of errhines and sialogogues in general.
2. Of particular errhines and sialogogues.

XVI. Of Caustics and Epispastics.

1. Of caustics and epispastics in general.
2. Of particular caustics and epispastics.

XVII. Of Emollients.

1. Of emollients in general.
2. Of particular emollients.

XVIII. Of Refrigerants.

1. Of refrigerants in general.
2. Of particular refrigerants.

General review of the action and application of remedies belonging to this division :—Of the ulterior as well as of the direct effects of their action ; *e.g.* of the sorbefacient and diuretic, as well of the antiphlogistic action of blood-letting and of purgatives ; of the tonic action of astringents, purgatives, and emmenagogues, &c.

CHAPTER III.

Of the Remedies which act primarily or chiefly — and are used mostly with the intention of affecting and influencing — the Mind and the Organs of Animal Life.

GENERAL view of the states or conditions of the system, and of the mind and the nervous and muscular systems in particular, which demand or indicate the use of remedies belonging to this division.

I. Of Narcotics and Anodynes.

1. Of narcotics and anodynes in general.
2. Of particular narcotics and anodynes.

II. Of Antispasmodics.

1. Of antispasmodics in general.
2. Of particular antispasmodics.

III. Of the action of Tonics and of Stimulants on the Nervous System.

IV. Of the action of Sedatives on the Nervous System.

V. Of the *Specific* action of certain Remedies on the Nervous and Muscular Systems.

VI. Of the Remedial action of Mental Causes. Of the *Regimen Mentis*.

PART III.

MATERIA MEDICA AND THERAPEUTICS, PRACTICALLY CONSIDERED.

CHAPTER I.

Of Nature and Art in the Cure of the several Kinds, Modes, or Forms of Diseased Action ; excluding, however, all consideration of Individual Diseases otherwise than as Illustrative of the Objects of Practice, and of the Resources of Nature and Art in the Treatment of each *kind* of Diseased Action brought under Review.

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CHAPTER II.

Of Violent Injuries—Sudden Seizures, including Poisoning, Hæmorrhage, &c.—The Objects of Practice in regard to them, and the Resources of Nature and Art in the Cure of them.

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CHAPTER III.

Of Inflammatory Diseases—Their Favourable and Unfavourable Tendencies, and their Modes of Favourable and of Fatal Termination—Objects of Practice in regard to them ; and the Resources of Nature and Art in the Cure of them.

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CHAPTER IV.

Of the Idiopathic Febrile Diseases—Their Favourable and Unfavourable Tendencies, and their Modes of Favourable and Unfavourable Termination—Objects of Practice in regard to them; and the Resources of Nature and Art in the Cure of them.

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CHAPTER V.

Of the Chronic or Non-febrile Diseases—General View of the Modes of Diseased Action, and of the Kinds of Morbid Structure observed in Diseases of this class—Of the Objects of Practice in regard to them; and of the Resources of Nature and Art in the Cure or the Alleviation of them.

- I. Of Chronic Diseases of the Heart and Bloodvessels; and of the Remedies for them.
- II. Of Chronic Diseases of the Respiratory Organs; and of the Remedies for them.
- III. Of Chronic Diseases of the Digestive Organs; and of the Remedies for them.
- IV. Of Chronic Diseases of the Urinary and Genital Organs; and of the Remedies for them.
- V. Of Chronic Diseases of the Nervous System; and of the Remedies for them.

CHAPTER VI.

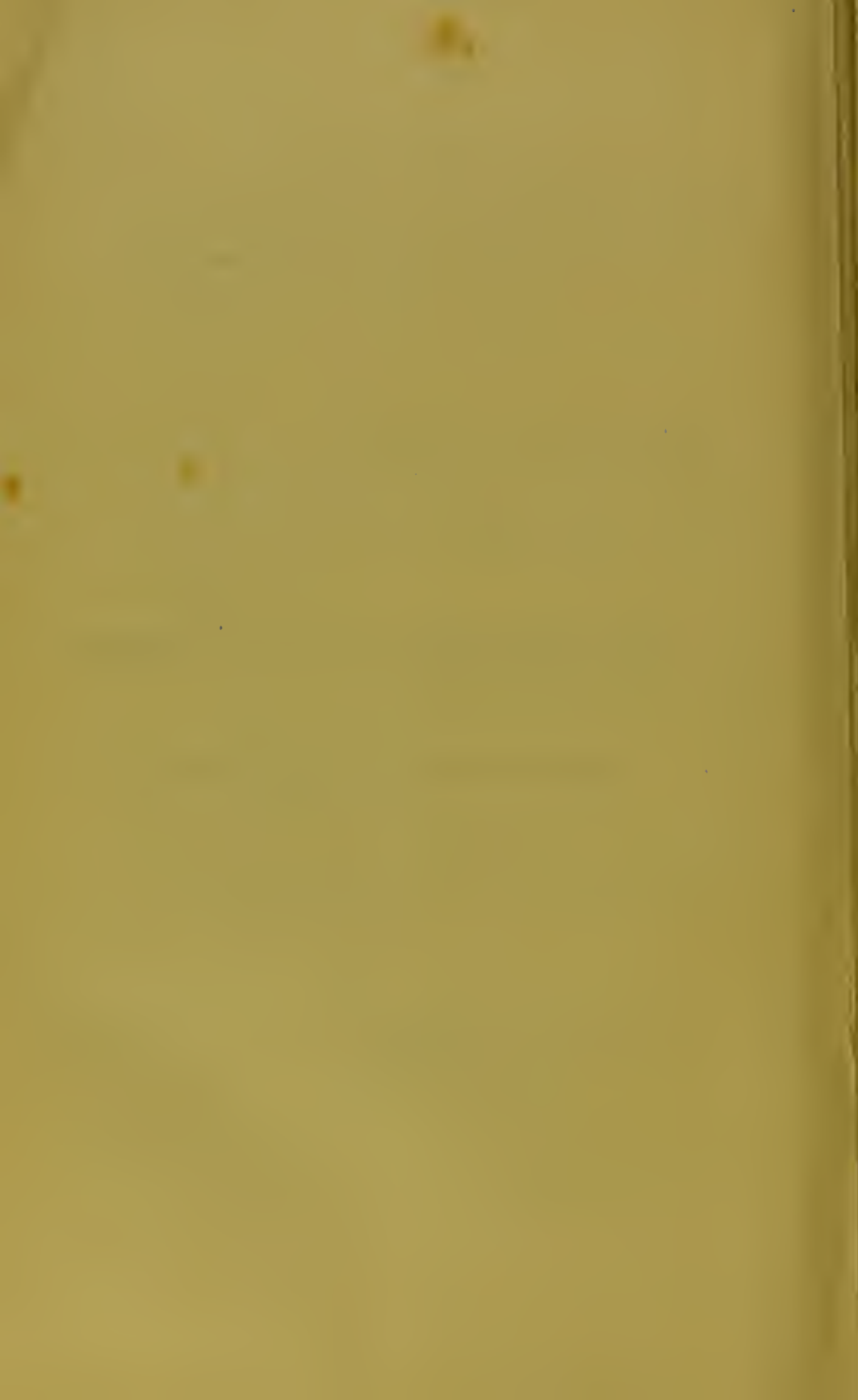
Of the Art of Prescribing.

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THE RIGHTS OF AUTHORS.

BY

MARTYN PAINE, A.M., M.D., LL.D., &c.



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THE RIGHTS OF AUTHORS.

§ 1084. UPON all questions of priority that concern the advancement of Science and Art, there is, doubtless, a general understanding that the principle should not only be sacredly observed, but that, whenever violated, there should be a common effort to repair the injury. This is alike due to the individual, to the principle, and to the common good. Nor is it less the privilege of the individual, who may have good reason to think that the principle has not been extended to himself, to vindicate his rights, and to appeal to that sympathy which forms the bond of union among honourable men. It is a common cause, and not seldom demands protection.

The Author of these Institutes (and it will soon appear that he acted wisely) has sometimes thought it expedient to assert his claim of originality, in advance, to many doctrines promulgated in the work; as, for example, all that is most essential in the application of the Nervous Power, or Reflex action of the nervous system to Pathology and Therapeutics, and to much of what is most important in the natural state of the functions. This may be readily seen by consulting p. 106, § 222 *b*, p. 107–116, § 225–234, p. 295, § 476 *a*, p. 318, § 493 *d*, p. 321, § 496, 497, p. 323–340, § 500–514, p. 465–467, § 714–719, p. 506, § 803–804, p. 515–516, § 819 *b*, p. 661–663, § 894–896, p. 666–676, § 902 *b*–904, p. 679–680, § 905 *a*, p. 690–691, § 906 *g*, p. 693–695, § 917–923, p. 698, § 931–935, p. 703–711, § 940–952, p. 746, § 990½ *b*, &c., where all the subjects relate to the reflex action of the nervous system, and present the nervous power as an important vital agent in the various processes of organic and animal life, in the production of disease, in the operation of remedies, in all the results of bloodletting, in the changes which take place in the secreted and excreted products—having also originally set forth the agency of the nervous power in voluntary motion (INDEXES, Article *Will*), and as this power is the efficient cause of the modifications of organic results under the influence of mental emotions (INDEX II., Article *Mental Emotions*, and references at p. 867, § 1067). Indeed, as the reader will have seen, the foregoing doctrines relative to the reflex action of the nervous power, operating as a vital *stimulus*, or vital *depressant*, or vital *alterative*, as it may be modified in its nature by one cause or another (§ 107–109, 227–230, p. 661–662, § 894 *b*), pervade this work. The same doctrines are at the foundation of the Author's "*Medical and Physiological Commentaries*," published in 1840, while the present work was published in 1847. In the mean time he has also laboured to inculcate them throughout his course of Medical Lectures in the University of New York—first on the Institutes of Medicine and Materia Medica from the year 1841 to 1850, and subsequently, to the present time (1857), on General Therapeutics and Materia Medica.

It may be worth saying, also, that the Author preserves the term "sympathy," though always meaning by it, as he strictly defines, reflex action of the nervous system, and this whether he employs the term "remote sympathy" or "contiguous sympathy." The elements of sympathy, as set forth in the work, are the *nervous power* and *sensibility*. All

this will be readily seen by a reference to INDEXES. Also, among other general remarks of a similar import, the Author has the following:

“Notwithstanding all the laws of sympathy that are necessary to the full interpretation of the remote effects of morbidic and remedial agents are as well established as any laws in physics, *they have not been applied to these important objects*; but, on the contrary, those philosophers who have contributed most to their critical exposition, *overlook their pathological and therapeutical bearings, and cling to the doctrines of humoralism and of the operation of remedies by absorption*; nor have they applied, in the least, the nervous power in a philosophical manner to an explanation of the natural phenomena of sympathy” (p. 111, § 234 a).

When the foregoing works were first published, it was in the midst of a universal prevalence of the chemical and physical doctrines of life and disease, and the Author stood alone in the field of Vital Physiology, and in the application of the reflex action of the nervous system in resolving the great problems in Physiology, Pathology, and Therapeutics. A few, however, had the quick sagacity to see its importance as presented by the Author; and since the decline of Organic Chemistry began, others have entered upon the inquiry, and the most zealous have promulgated as original with themselves many of the doctrines which belong to the Author of these Institutes, especially such as are relative to the nervous system. But the Author has relied upon his professional brethren for ultimate justice: “*Ultimum et unicum remedium.*” “*Jus aliquando dormitur, moritur nunquam.*”

But the Author has lately seen so great an indisposition, in certain quarters, to allow him any credit for his labours, that he has concluded to make this expostulation, which refers, particularly, to the following dispute about the authorship of matters in which neither of the gentlemen has any interest, but the writer alone of these Institutes. This rival claim appears in an Article published by J. ADAMS ALLEN, A.M., M.D., in the “*Medical Independent*” for September, 1857, p. 381, Detroit, Michigan. Thus:

“It appears from a late number of the London Lancet that M. Hall (Marshall Hall) recognizes to a certain extent the priority of Dr. Campbell. His words are these:

“‘I arrive at this conclusion: the idea and the designation of an excito-secretory action belongs to Dr. Campbell, and his details are limited to pathology and observation. The elaborate experimental demonstration of reflex excito-secretory action is the result of the experimental labors of M. Claude Bernard. My own claim is of a very different character, and I renounce every other. It consists in the vast *generalization* of excito-motory action throughout the system. I trust Dr. Campbell will be satisfied with my adjudication. There is the excito-secretory function as applied to pathology, an ample field of inquiry for his life’s career, and it is indisputably—*his own*. He first detected it, gave it its designation, and saw its vast importance.’”

Dr. ALLEN then continues:

“M. Hall thus far freely and fully admits the priority of Dr. Campbell, and the latter gentleman bases his claim upon the date, May, 1850. I shall undertake to show that this same doctrine was first publicly announced and illustrated in my Lectures at the Indiana Medical College in November, 1848, and thenceforth continuously during the continuance of my public teaching before the several classes of that College,

and also the Medical Classes of the University of Michigan until my connection with that Institution 'expired by limitation' in 1854. My own manuscript containing this doctrine was written in May or June, 1848"—that is to say, *more than one year after the publication of these Institutes.*

"What I do claim is the great generalization that the excitoinfluence is followed by a reflex change in which the effect is NOT A MOTION, but A MODIFICATION OF VASCULAR AND NUTRIENT ACTION. That this effect takes place BY MEANS OF THE DOUBLE NERVOUS ARC. A vast number of therapeutic phenomena are thus explained" [as the reader will find, very extensively, in many Chapters of this work, particularly in those upon REMEDIAL ACTION, THERAPEUTICS, COUNTER-IRRITATION, CATHARTICS, &c.].—Dr. A.'s capitals and italics.

Now the whole of the foregoing doctrine is impressed upon the *Medical and Physiological Commentaries*, and upon half of the pages of these Institutes, and has been always taught extensively in the Author's Lectures since 1841.

Dr. ALLEN claims, also, the application of the principle to Therapeutics, and remarks that "in my course upon 'General Therapeutics' the subject of 'Counter-Irritation' came under review," and concludes that "the impression MUST BE transmitted to the nervous centres, and thence reflected to the affected organ. In other words, the influence is primarily exerted upon the cerebro-spinal system, and secondarily upon the internal affected organ. This is the gist of the whole matter, and the point consists in the recognition of reflex cerebro-spinal action, which, in the instances adduced, give rise to a molecular or integral change in the inflamed tissue, and not a muscular contraction. The oral elaboration of this principle was suggested by an idea [?] which does not even now appear to have occurred to either M. Hall or Dr. Campbell, viz.: *The motor effect is merely SECONDARY, and not a necessary part of the action of the nervous arc.*"

Here, also, the whole of the foregoing doctrine appears throughout these Institutes. But they embrace a long chapter particularly upon "*Counter-Irritation*," in which it will be seen that the Author has employed nearly the foregoing language of Dr. A. especially at p. 642, § 893 *a*, p. 647, § 893 *e*, with a great elaboration and extensive application of the doctrine throughout the work; which had been also antecedently taught in his Lectures for seven consecutive years before Dr. Allen promulgated the same views.

To show still farther this partiality for the Author's Writings, or his Lectures (then familiar to his large classes of students), he will quote from Dr. Allen the following conclusions, which he also places in capitals:

"THE EFFECT IS MOTORY, IF CONTRACTILE FIBRE BE PRESENT.

"THE EFFECT IS SECRETORY, IF SECRETORY ORGANS BE SUPPLIED.

"THE EFFECT IS SENSATION, IF SENSITIVE NEURINE BE REACHED.

"THE EFFECT IS PERCEPTION, OR INTELLECTION, IF THE ORGAN THEREOF BE IN CONNECTION WITH THE REFLEX NERVE."

"The effect produced, then, depends upon the STRUCTURE AND CONDITION of the organ reached."

"This influence is NOT confined to the mere increase of action, as the term excitator might perhaps suggest. The reverse may take place—the excitator may rather become the depressor. It would be as correct to say the depressor-motory, the depressor-secretory, as to say the excitator-*idem*."

Now the Author of these Institutes not only dwells emphatically upon the depressing and sedative influence of reflex nervous action, according to

the nature of the remote causes and special conditions of disease (p. 107–111, § 226–233 $\frac{3}{4}$, p. 507, § 806, p. 661–662, § 894–895, p. 671–672, § 904 *a*, p. 735, § 978, and *references* in § 1067 *a*, *b*, as to *Mental Emotions*, and in many other places), and upon its operation according to the natural structure and special vital constitution of organs, and their varying conditions (p. 59, § 129 *g-i*, p. 61–69, § 132–156, p. 73, § 163, p. 109, § 229, p. 111, § 233 $\frac{3}{4}$, p. 285, § 555 *d-f*, p. 313, § 487 *h*, p. 353–362, § 525–529, p. 374–383, § 576–584, p. 415–417, § 649, p. 418, § 651 *b*, p. 421–423, § 657–658, p. 523, § 827 *c*, p. 542, § 854 *bb*, p. 613, § 892 $\frac{1}{2}$ *b*, p. 644–650, § 893 *c-i*, p. 665–672, § 902–903 *b*, p. 746, § 990 $\frac{1}{2}$ *b*, and the numerous references in those sections); but the Author represents, also, the reflex action as variously *alterative* in organic life, and this imputed attribute pervades the Author's writings. He enforces, everywhere, the doctrine that the reflex action of the nervous power is the modifying cause through which all the changes are effected by morbid and remedial agents in parts that are not immediately connected with the direct seat of their action; and, farther, that the principle is precisely the same when the nervous power is brought into operation by *direct* influences upon the nervous centres (as in the case of their diseases, or when the Passions operate, or as the Will determines voluntary motion), as it is when it is brought into operation in that indirect manner known as reflex action.

Indeed, every one of the foregoing doctrines, in all their particularities, as quoted from the American Claimant, are taught, at great extent, in the volume before us, as may be readily seen by consulting the references made in this protest, and, more extensively, INDEXES, ARTICLES STRUCTURE, NERVOUS POWER, SENSATION, SENSIBILITY, SYMPATHY, ORGANIC FUNCTIONS, REMEDIAL ACTION, MIND, MENTAL EMOTIONS, WILL. —“*Si quis monumentum, circumspice.*” It may appear superfluous, however, to have made these specific references in an article connected with the work itself; but it is done to encourage those readers who might not otherwise be inclined to ascertain the facts.

But the writer is more interested with the European Umpire, of whom he has felt that he has much more reason to complain.

“Omne animi vitium tanto conspectus in se
Crimen habet, quanto major, qui peccat, habetur.”—JUVENAL.

That the Author's physiological and medical writings were generally known in Europe many years before the period at which “Dr. Campbell bases his claim” (1850), is evident from the distinguished honors to which they had led in that Country before that period—that from the Medical Society of Prussia as early as 1842—that from the Medical Society of Leipsic in 1843; and the “Medical and Physiological Commentaries” (of 1840) were published simultaneously in London and New York; and as to the United States, the *Commentaries* were early distributed throughout the land, and his *Institutes of Medicine* more than a year, also, before Dr. A.'s Lectures were delivered; and the Author's Lectures at the University, which form the groundwork of his *Institutes*, had been listened to annually by Medical Students from all quarters of the Union since the year 1841. In 1848 the Author applied the doctrine of reflex nervous action to a physiological demonstration of the substantive existence of the Soul and Instinctive Principle, which was then published in pamphlet form, and in 1849 the work was extended and assumed

the shape of a book, and is now incorporated, in its essential parts, in these Institutes.

Nor is that all; for the whole of this doctrine of reflex nervous action, and of the operation of the nervous power as an *alterative*, an *excitant* of the secretions and of vascular action (both direct and reflex), a *depressant* and *sedative* (according to the nature of exciting causes), and the *great immediate cause of diseases and their cure*—variously modifying organic actions—was set forth extensively and circumstantially in an “*Essay on the MODUS OPERANDI OF REMEDIES*” in 1842, of which the Author distributed, at that time, a large number of copies in London, and addressed four thousand copies to Physicians throughout the United States. The Author not only sent a copy of the work to Dr. Hall, but dedicated it to him (along with Prof. J. Müller and Dr. A. P. W. Philip) in connection with an “*Essay on the Philosophy of Vitality*,” and he may add that he controverted, in the former Essay, doctrines of Dr. Hall (in “*Memoir on Diseases and Derangements of the Nervous System*, 1841”), which were in direct opposition to those which are now in question (also, p. 296–297, § 476½, b). These Essays were subsequently bound up in the Third volume of the “*Medical and Physiological Commentaries*,” where the former may be readily consulted. But Dr. Philip had fully deduced from his experiments the *sedative* as well as *exciting* influence of the nervous system upon vascular action before Dr. Hall’s experiments were made (§ 492).

As to M. Bernard, his experiments bearing upon the connection of the nerves with the function of secretion, however much they may have been varied and multiplied, were anticipated long before by those of A. P. W. Philip, which are quoted extensively in these Institutes (p. 290–321), and towards which Dr. Hall had no friendly disposition (p. 306–308, and where the writer has controverted his views). The merit of originality which belongs to the present writer, in relation to these experiments, consists in their extensive application in illustrating the functions of the nervous power as a vital agent, profoundly interested not only as an “*excito-secretory*” power, and as a modifying cause of all secreted products, nutrition, &c., when diverted from their natural standard, but in deducing from them a universal agency of the reflex action of the nervous system, through “the double nervous arc,” in the production and cure of disease, and by which he laboured to explode the chemical and physical doctrines as early as 1840. But, that the writer may not be misapprehended, he will say that he endeavours to establish the fact that secretion in animals, as in plants, is conducted by powers implanted in every part, but that it is constantly influenced physiologically, pathologically, and therapeutically, by reflex action of the nervous system.

The writer is very sensible that unaccountable coincidences often present themselves in the development of new thoughts, and in the discovery of hidden things, especially where enduring reputation may be won. “*Ubi mel, ibi apes.*”—“*Uno tiene la fama, y otro carda la lana.*” But the reader, with these Institutes before him, will quickly find that much that is claimed by Dr. Hall, and all that he has granted to Dr. Campbell, in the foregoing quotation, and, therefore, all that Dr. Allen appropriates to himself,* abounds in this volume, and, in fact, constitutes the life and

*.

“Unus utrique
Error; sed variis illudit partibus.”—HORACE.

soul ("ζωή καὶ ψυχή") of the work, as it does, also, of the "*Commentaries*," and of the Essay on the "*Modus Operandi of Remedies*;" nor can the reader fail of the conclusion that, were Dr. Hall's "adjudication," and Dr. Allen's after-thought, founded in any justice, and were not the claimants themselves the obnoxious parties, the present writer would have been long ago convicted by them and by others of arrogant assurance and the grossest plagiarisms. Nevertheless, the Author is most happy to find that his solitary position is becoming relieved, and that a practical direction has been given to his labours by others which cannot fail of carrying forward the great doctrines at which he has toiled, and against manifold obstacles, during his professional life.

New York, September, 1857.

POSTSCRIPT.—From what has been seen in the last preceding Article (which was at first printed for publication without this Postscript), it will not appear remarkable that the Author regards it as a duty to himself and to the cause of that Philosophy in Physiology and other branches of Medicine which he has labored to introduce, that he should set forth the principal details of what he considers himself the unquestionable Author. Following, therefore, the foregoing admonitory examples, he proceeds to assert his claim of originality to—

1. All that is relative, in principle, to *Reflex Action of the Nervous System* in Pathology and Therapeutics, including the application of antecedent experiments to determine the "Laws of Sympathy" and of the "Vital Functions," as they respect the natural conditions, to all the great problems in those branches of Medicine, so far as the Nervous Influence is involved as a modifying cause; and a systematic *generalization* of the whole subject. The Laws of Reflex Action of the Nervous System, in their Physiological aspect, were understood, to a large extent, as early as the time of Prochaska (§ 463 *b*, 476 *b*), and justice demands of us that analogous contributions by Hippocrates shall be acknowledged (§ 463 *a*), while, also, it will be seen through the foregoing references that this most important subject, in philosophical and practical medicine, had engaged the diligent attention of other eminent observers prior to the grand discovery by Sir Charles Bell of the anatomical media (§ 464, &c.), by the aid of which, and the labors of many others, the great Prussian Physiologist reduced the laws of reflex action of the nervous system to a masterly generalization. The Author of these Institutes had also given his critical attention to the researches of Marshall Hall, and has expressed his opinion of their merits in many places, and summarily in § 463 *b*.

2. The doctrine of *Modification of the Nervous Power* by the Causes which bring it into action, and according to the nature of each Cause, whether mental or physical, remedial or morbid, external and internal, and through which its *Alterative* influences are exerted in conformity with its various modifications, respectively—regarding, therefore, the Nervous Power as a *Vital Alterative Agent* and susceptible of an endless variety of changes in *kind* from the influence of exciting causes; being thus rendered, in its extremes of change, either a *vital stimulant* or *sedative*, exerting *alterative* effects, with corresponding results in both the solids and fluids.—The application of this philosophy equally to the cure and production of diseases in all their gradations. (INDEX I. and II.)

3. The doctrine and demonstration of the operation of *Remedial Agents* and *Morbid Causes* by *Reflex Action of the Nervous System*, as, also,

through the foregoing *modification* of the Nervous Power (No. 2), and all that is relative to the same action in Pathology and Therapeutics.

4. A distinct exposition of the *modus operandi* of *Counter-Irritants* through *Reflex Action of the Nervous System*, and their associate *local influences*; exemplifying, also, by these agents, the *modus operandi* of all other agents applied to the skin when they produce constitutional, or any internal effects, whether remedial or morbid—as in the case of cold, mercury, &c. (INDEX II., *Counter-Irritants*; *Causes, Morbific*; and *Remedies*).

5. A distinct exposition of the *modus operandi* of the *Seton* through *Reflex Nervous Action and local organic influences*, as exemplifying all the essential philosophy that is ever concerned in the operation of all remedial and morbid agents, as set forth in the Author's Essay on the *Modus Operandi of Remedies* (1842), and in these Institutes (p. 679–681, § 905 *a*)—being, however, only parallel with the author's demonstration of the operation of Blisters and other Counter-Irritants through the same causations.

6. The operation of *Anæsthetics* through *Reflex Nervous Action*, as contained in this work.

7. Distinction between the agencies of *Reflex Nervous Action* in the *modus operandi* of the Author's group of *Alteratives* and among other denominations of Remedies (INDEX I. and II.)—an important consideration, by which the *gradual* operation of Remedies through *Reflex Nervous Action* is rendered clearly intelligible, as in the progressive influences of small and frequently repeated doses of tartarized antimony, mercury, &c. (p. 344–345, § 516 *d*, No. 6, p. 568–569, § 889 *m, mm*). And so, also, of the progressive operation of Morbific Causes, either physical or mental—as in hydrophobia, sympathetic diseases, &c. (p. 421–422, § 657 *a, b*, p. 465–466, § 715, p. 661–663, § 894–896). The example of the *Seton* illustrates the principle (No. 5).

8. All embraced in this work, and in the Medical and Physiological Commentaries (vol. i., p. 124–384) upon the *Influences and Modus Operandi of Loss of BLOOD* (whether in General Bloodletting or Leeching), which are interpreted by the Author upon purely Physiological Laws, and mainly through *Reflex Action of the Nervous System*.

9. The Law of ADAPTATION, operating through *Reflex Nervous Action* (INDEX I.).

10. The philosophy of the natural operation of the *Will and Mental Emotions* through the *direct* development and action of the *Nervous Power*, and its effects as an *Alterative* agent when the latter operates in the cure or production of disease, as embraced in this work.

11. Demonstration of the *direct* development and propagation of the *Nervous Power* as an *Alterative* agent, or a simple *Stimulant or Depressant*, in diseases of the nervous centres, &c., and as concerned in Loss of Blood along with *Reflex Action*, &c.

12. What is relative, in this work, to peculiarities of *Structure* in its Vital constitution in different parts (p. 50–73, &c.), and their important bearings upon Physiological, Pathological, and Therapeutical doctrines, as it relates both to the direct action of remedial and morbid causes, and their operation through *Reflex Action of the Nervous System*.

13. The proof and reasoning embraced in these Institutes, and in the Medical and Physiological Commentaries, and other works, in behalf of VITAL SOLIDISM, as applied to Physiology, Pathology, and Therapeutics, and in opposition to the Chemical hypotheses.

14. Special deduction of *Vital Principle*, and peculiar Laws of Organic Beings, from their *Composition*, as embraced in this work (p. 23-49).

15. Special deductions from *Nitrogen Gas*, as contradistinguishing the Organic from the Inorganic Kingdom, as contained in the Essay on the Philosophy of Vitality (1842), and briefly in this work (p. 34-36, § 62 a-k).

16. Special deduction of the principles of *Vital Solidism*, Physiological and Pathological, from the development of the incubated *Egg* and the physiology of *Generation*, as contained in the Essay on the Philosophy of Vitality, and in these Institutes (p. 36-49, § 63-81).

17. Analysis and elaboration of the *Properties of Life*, as contained in this work (p. 73-125).

18. The proof adduced in this work, and in the Medical and Physiological Commentaries (vol. i., p. 1-119), of the existence and office of the *Vital Powers* or *Vital Properties*, with a disproof in the latter work of the supposed identity of the Nervous Power and Galvanism, with the variety of proof herein contained of the wonderful attributes of the Nervous Power, as one of the properties of the Vital Principle of Animals.

19. Exposition of Law of *Vital Habit* (p. 363-370, § 535-537).

20. All embraced in these Institutes and the Medical and Physiological Commentaries in disproof of the Chemical and Physical hypotheses as applied to Physiology, Pathology, and Therapeutics.

21. All herein and in the Medical and Physiological Commentaries (vol. i., p. 385-712) in refutation of the *Humoral Pathology*.

22. Demonstration of the dependence of *Digestion* upon Vital Laws, and to the exclusion of the Chemical, as contained in this work and in the Medical and Physiological Commentaries (vol. ii., p. 79-122).

23. Demonstration embraced in these Institutes, and in the Medical and Physiological Commentaries (vol. ii., p. 1-78), of the dependence of *Vegetable* and *Animal Heat* upon Vital Laws, and against the Chemical hypotheses.

24. Experiments relative to the *Circulation in the Brain*, showing that the organ is depleted in Bloodletting (p. 824-828).

25. Demonstration of the dependence of *Absorption* and *Circulation* in Plants and Animals upon Vital Laws (p. 817-824, § 1053-1055, and *passim*).

26. Much of what herein relates to the Powers which circulate the Blood, and in the Medical and Physiological Commentaries (vol. ii., p. 398-426).

27. The distinction between *Inflammation* and *Fever*, and what is most essential in proving an active condition of the immediate instruments of Inflammation, and the dependence of its different stages, and of all its phases and products upon Vital Laws, as embraced in these Institutes, and in the Medical and Physiological Commentaries (vol. ii., p. 141-214).

28. All herein relative to the philosophy of *Venous Congestion* and *Varix*, and in Medical and Physiological Commentaries (showing that *venous inflammation* is the pathological condition), and the proof of the dependence of *Tubercle* and *Scrofula* upon Inflammation, and *Cold* as a cause of Congestion, &c., in the several Appendixes to Venous Congestion in Commentaries (vol. ii., p. 215-640).

29. Much of the Physiological bearing of organic changes incident to different periods of Life upon practical medicine (p. 373-383, § 570-584).

30. The uses and abuses of *Morbid Anatomy* as contained in this work and in *Medical and Physiological Commentaries* (vol. ii., p. 641–677).

31. A generalization of the *mutability of the Properties of Life*, as lying at the foundation of disease and of its cure, and of many natural changes of organization at the different stages of life, of gestation, lactation, &c. Also, of the doctrine of a *substitution of pathological conditions* by Remedial Agents, through *reflex nervous action*, more favourable to the law of recuperation than such as had been impressed by the truly morbid causes, and their progressive nature; and the *physiological distinction* which the Author has drawn between remedial and morbid agents.—See *Index I.*, VITAL PROPERTIES.—*Index II.*, REMEDIES; CAUSES, MORBID; THERAPEUTICS.

32. The demonstration of the operation of *Astringents* upon Vital Principles, and through *reflex action of the nervous system* (p. 370–378).

33. The demonstration of the operation of *Tonics* upon Vital Principles, and through *reflex action of the nervous system* (p. 579–583, § 890½, p. 676–679, § 904 c, d).

34. Attempted refutation of *Theoretical Geology*, and of *Spontaneity of Being*, to which there are references at p. 908, § 1079 b, p. 910–911, § 1083.

35. A critical exposure of the fallacies of the Medical Doctrines embraced in the WRITINGS of P. CH. A. LOUIS, in *Medical and Physiological Commentaries* (vol. ii., p. 679–815, and *passim*).

36. A critical exposure of the fallacies contained in the WRITINGS of LIEBIG, so far as he has applied Organic Chemistry to Physiology, Pathology, and Therapeutics (p. 147–178, p. 234–279, and *passim*).

37. A *Therapeutical Arrangement of the Materia Medica* upon Physiological principles, and in the order of the relative therapeutical value of the different substances, and as applied to particular forms of disease.

38. All that is relative to the Substantive Existence and Physiology of the SOUL and INSTINCTIVE PRINCIPLE, as embraced in this work, and in the former Essay upon those subjects. (See INDEX II.)

39. Opinion that the *Will* exercises a controlling influence upon the *Intestine* in Defecation, and as evincing a remarkable instance of Creative Design, p. 325, § 500, c.

PREFACE TO THE FOURTH EDITION.

THREE Editions of these INSTITUTES, the first of which was published in 1847, having been exhausted, the Author now submits a fourth to his medical brethren, in which he has endeavoured to incorporate, in an APPENDIX, the most important of the recent discoveries in Physiology, Pathological Anatomy, Therapeutics, Organic Chemistry, and Microscopy that are relative to the principles about which this work is interested, and he has connected the Appendix intimately with the main body of the work by copious references to the sections embraced in the former, while the same system is carried out reciprocally in the latter. It is also gratifying to the Author to pay his humble tribute of admiration particularly to the immense labors of the microscopist, who, through the great improvements of the instrument, is now enabled to analyze with surprising accuracy the ultimate and varying conditions of the solids and fluids. The Author has also fulfilled his design, as expressed in the Preface to the first edition, of extending the original Index, a second one being now added, in which he has endeavoured to present an epitome of the whole work. It is proper, however, to suggest that the Reader will find an advantage in consulting simultaneously the original Index, as it is more particularly analytical.

NEW YORK, *November*, 1857.

25

THE EFFECT PRODUCED BY THE PRECIOUS METALS
OF AMERICA UPON THE GREATNESS
AND PROSPERITY OF SPAIN.

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M DCCC LIX.



ANALYSIS.

I. PRELIMINARY—

History of the influx of the Precious Metals into Europe,
Europe, and of the advance of prices.

The influence which gold and silver would have exercised
upon Spain, if trade in them had been free.

The manner in which their influence was modified by
restrictive laws.

II. History of Spain, as influenced by the influx of Metals, during the sixteenth century.

Its condition at the period of the discovery of America.

From the commencement to the middle of the sixteenth
century.

Between 1550 and 1600.

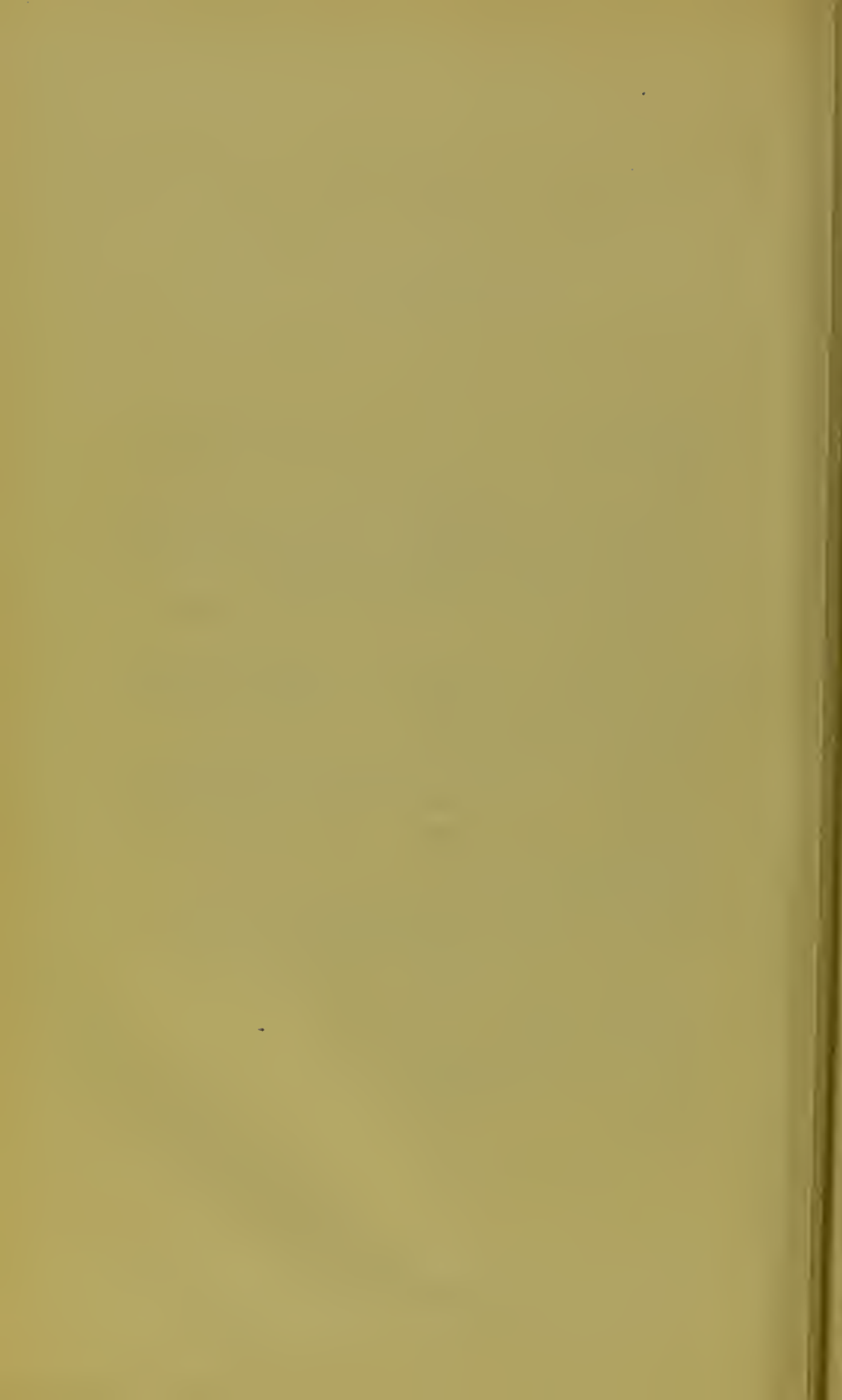
III. Miscellaneous effects of the Precious Metals of America.

The manner in which the Spanish character was affected
by mining life in the colonies.

The trade in Negroes.

Prohibitive system in commerce.

Conclusion.



THE EFFECT PRODUCED BY THE PRECIOUS METALS OF AMERICA UPON THE GREATNESS AND PROSPERITY OF SPAIN.

AT the commencement of the sixteenth century, while movement thrilled in each member of the social body throughout Europe, and commerce, quick to welcome every impulse, began to march with hastened step and in a wider range, the discoveries of Columbus and of Vasco de Gama opened new worlds to the enterprise and the cupidity of mankind. Again trade expanded with sudden rapidity; but larger mercantile dealings required a more abundant currency, and sources ample for the narrow wants of a stagnant society would fail to satisfy its restless cravings in the future; a lack of money might cramp the energies of youth, and change its strength into the decrepitude of premature decay; and it was necessary to procure new supplies of coin. Whence then were they to be derived? America responded to the demand, and poured into Spain its golden flood, at first in slender, then in deeper streams.

It shall be our task to follow the history of this influx, to show how in the commencement it affected prices, and how through them it influenced the policy of kings, modified the character of the Spanish people, and gave rise to principles and to systems which have left their imprint upon the events of ages. Look where we may the marks left by that tide appear, yet of itself it was powerless for evil or for good. It could assist the growth of prosperity, it could embitter the miseries of decline; but it never acted except in subordination to other causes. Thus the effects produced by the precious metals were inextricably linked with the results of political influences, and their discussion will involve to no small extent the general history of Spain and of Europe. It will therefore be convenient before entering upon these questions to dispose of the amount of gold importation and of the advance in prices—subjects which it is necessary to understand clearly, but which could hardly be introduced into our subsequent investigations.

At the moment when the first grains of American specie touched the shores of the Peninsula, the quantity of the precious metals circulating in Europe amounted to about

£34,000,000; nor was this fund much enlarged during several years. Between 1492 and 1500 the average annual importation was not above £52,000, and after that period till 1519 the supply tended to diminish rather than to increase. From that moment however the treasures of Mexico began to flow into the coffers of Spain, and it is estimated that the available specie in Europe was increased 50 per cent. before 1545^a. In that year the rich mines of Potosi were discovered, but their full effects were not at once conspicuous, and we shall not err greatly in supposing that about 1550 prices had doubled throughout all Europe alike, and that until then their progress had been as rapid elsewhere as in Spain^b. Between 1545 and 1600 the importation of Bullion increased so rapidly that a total of not less than £127,000,000 reached Seville during the entire period; if to this be added the £62,770,000 already held in the various parts of Europe, a sum is obtained (in round numbers) of £190,000,000 as the quantity existing in the last mentioned year; but when allowance has been made for the diminution by wear, for the amount subtracted by the fabrication of utensils, for that locked up in hoards, and lastly for the sums which passed into Asia, it is not probable that more than £130,000,000 was actually available for monetary purposes, that is to say, the currency was increased by 100 to 160 per cent. upon the quantity existing in 1545. During this period prices would seem to have risen at least six times in Spain^c. In France and in England, so far as it is possible to judge through a maze of conflicting figures, they would appear to have nominally increased to about five times their level of 1490^d. Even Germany was

^a Jacob. *Historical Inquiry into the Production of the Precious Metals*, vol. ii. page 52, &c. Humboldt (*Essai Pol. sur le Royaume de Nouv. Espagne*, tom. iv. p. 258), places the amount at £28,770,000, but the lower estimate seems the more probable, and receives the support of Rossi, quoted by Sandelin. *Repertoire General de l'Economie Politique*.

^b For prices in *Spain* see *Memorias de la Academia de la Historia de Madrid*, tom. vi. p. 292, &c., and Ortiz, *Invest. de la Natur. y Causas de la Riqueza de las Naciones*, tom. i. p. 334, note. For those in *England*, compare Eden, *State of the Poor*, vol. iii. Append. 1, with Anderson's *Hist. of Commerce*, vol. ii. page 96; and Adam Smith, book i. chap. ii. p. 117, ed. Maceulloch. For prices in *France* see Garnier, *Richesse des Nations*, tom. i. p. 331. It will be seen presently that corn averages must be received with no little distrust. Were they blindly followed we must place the rise of prices in England at 70 or 80 per cent., and in France at 300 per cent. Allowance is however made in the text for various circumstances which modify the results to be deduced from the tables, &c. alluded to.

^c See as before, also Cortes del Anno 1598. Valladolid, p. 49.

^d See as before; and Anderson, vol. ii. p. 221. In France the apparent in-

subject to the same changes, for we find that the price of rye in Brunswick market ranged at about three grosschen, from 1500 to 1550, and at eleven grosschen from 1550 to 1600°. Italy alone, from causes peculiar to itself, experienced no alteration in prices during the sixteenth century.

The vast commerce which it had enjoyed during the Middle Ages concentrated an undue proportion of the precious metals within its limits; and now when fresh channels of trade were opened out, and its monopoly was at an end, it was more ready to give forth some of its treasures than to absorb any fresh supplies^f. With this exception the rise was doubtless universal, but the inequality of that rise was greater than might be supposed from the figures which have been given.

Corn averages are the only definite means which exist for determining the rate of advance; but, besides that imperfect agriculture rendered their variations from year to year much greater than those which are now apt to take place, while defective arrangements for transport caused abrupt changes of price to occur in particular localities, it has been proved by Mr. Tooke that a succession of plentiful or of meagre crops may follow one another for a sufficient length of time to derange all conclusions drawn from averages, even where the period taken is so wide as half a century.

The impressions conveyed by the works of contemporaries, though more vague, may be on the whole more trustworthy, and their authority, no less than the presumption which might be derived from the commercial history of Spain towards the end of the century, would induce us to believe that the difference really existing between prices in the Peninsula and elsewhere was of a very decided nature. Nor must we forget to allow for the alteration in nominal values made in some countries by debasement of the coinage. In France royal edicts brought up the coined mark of silver from the value of eight or ten livres, to which it had been equivalent in the beginning of the xvth century, to that of sixteen or eighteen livres at the accession of Henry IV.^g Thus at the moment when the price of corn was apparently ten times as high as that for which grain was sold a hundred years before, the actual rise was not more than four times.

crease was to about ten times (in 1595) the price which had ruled in 1490, after which an abrupt decline took place, to about six times in 1606.

^f Sandelin. *Repertoire General de l'Economie Politique*, tom. v. p. 209.

^g Carli. *Del Valore dei Metalli Monetate d'Italia*, quoted by Sandelin, *Rep. Gen. de l'Econ. Pol.*, tom. v. p. 206.

^h Blanqui. *Histoire de l'Economie Politique en Europe*, tom. i. p. 330.

On the whole, then, we may conclude that a difference of from a fourth to a third existed between the total rise in Spain and that which was experienced in the rest of Europe.

It is this differential rise which measures the effect of whatever causes exerted themselves in the Peninsula alone ; or, to speak more correctly, which indicates a financial and industrial condition produced either by the mere fact that Spain received primarily the influx of gold and silver from America, and was the medium of their distribution to other countries, or by this fact modified by the political history of that kingdom, and by the peculiar policy of its government in regulating trade. That the former supposition would be inadequate will be clear after a very brief examination of the manner in which a mere transit of the precious metals could have operated. It must of course be assumed that they were permitted to enter and to depart with entire freedom. Under these circumstances they would obey the same laws to which other merchandize is subjected. They were the staple commodities of the countries from which they were imported ; they were offered in exchange for the produce of Spain ; and in the natural course of events if a demand for them showed itself in foreign states, they would in turn pass on to them in exchange for other articles. If none were absorbed in this manner, the wants of Spain would have been quickly satisfied, and a contraction of trade with her colonies would have ensued, so soon as the diminished value of money began to press inconveniently upon the traffic with other nations. The production of silver at the mines would then have ceased, and Mexico and Peru would have devoted their energies to the development of other resources. In the mean time, Spain would relieve herself from the momentary glut of specie by the action of the usual exchange laws. Her own productions having a slightly higher nominal value than before, foreigners would abstain from buying, and would therefore be obliged to accept money in return for their own commodities. In a short time the surplus would be drained off, prices would assume their former relation to those in other countries, and trade would again flow in its ordinary course. Thus it would have been impossible for any great or lengthened rise in prices to have taken place under a free system, had the state of other countries been such as to confine the precious metals within the Peninsula.

But if it be supposed, as was indeed the case, that the foreign demand was large enough to absorb all that could be

spared from the domestic requirements of Spain, so far from conceding that any serious rise in prices would necessarily have occurred in that kingdom, we might even doubt whether they would not have slightly fallen. All other circumstances being equal, imported commodities, and money like the rest, will be of lowest value in the country for whose exports there is the greatest foreign demand, and which has itself the least need to import. Spain was certainly not in this position; she depended upon foreign industry for the larger portion of the manufactured articles which she consumed, while her exports were limited to a few raw materials; Italy and Flanders were the centres to which it might be expected that the precious metals would gravitate, and there in fact they had abounded most in the fifteenth century. It is true, that as the exercise of traffic with the Indies was permitted to Spaniards alone, and even to them under not a few restrictions, the wealth of America could be disbursed nowhere but in Seville, and it might at least be thought that a large balance would always float in the Peninsula, especially as the demand on behalf of the Mexican markets would be supposed to encourage manufactures, and thus enable Spain to dispense more and more every day with foreign importations, till in fine she would appear in the character of a great exporting nation. To this it may be answered, that if she imported articles for her own use before the cost of production had increased, her traders would surely find it more advantageous to pursue the same course, in order to supply the American demand, than (while prices were manifesting a tendency to rise more rapidly at home than abroad), to establish manufactories, which, with greater uncertainty, could in no case afford a larger profit. It is evident, therefore, that under no circumstances could the free passage of gold and silver into Spain and forth from it in turn to other markets, have produced the differential rise of prices which actually took place, far less the more serious phenomena by which it was accompanied. In truth, the power of the precious metals, whether for good or evil, is always very insignificant, except where they derive an adventitious influence from other sources, from the laws and prejudices and fancies of mankind. They form intrinsically but a small portion of the world's riches; by convention they have been adopted as money, that is to say, as a machine for sparing time and labour; and as it is only when a machine has been tampered with and clogged by rashness or stupidity that it exercises any distinct or inde-

pendent influence, so in this manner alone could the gold and silver of America be the cause of injury to Spain.

If then any evils resulted from their action in that country, the marks of interference must be sought for; the laws which governed trade must be sifted, and their mode of operation must be traced. The general commercial legislation of Spain was peculiar to itself, but in the ordinances which regulated the traffic in coin and bullion, nothing will be found which differs in principle from the enactments which all rulers have till lately thought it right to enforce. Money has never been permitted to adjust its supply according to spontaneous laws, and every government has endeavoured to control it, with the view of keeping a larger quantity in the hands of its subjects than would otherwise have been in their possession, because every addition to the amount held by a people was considered to increase the fund of national wealth. Such were the ideas which inspired the edicts of Charles, but their effects were widely different in Spain from those which resulted in other countries. In the latter they were limited by the smallness of the quantity exposed to the operation of laws, which after all were never very strictly acted upon; but in the former the attendant evils were much more deeply felt, both because the enactments were carried out with extreme severity, and because a greater mass of gold and silver was subject to their influence.

In this instance, however, the policy of the Emperor was identified with the wishes of his subjects, and the latter even appear to have been more thoroughly the victims of prejudice than the government itself. At first the export of specie was simply prohibited, but it was soon found that mere injunctions were of little avail, and the penalty of forfeiture of goods, and ultimately of death was affixed to the crime of conveying abroad bullion, coined money, or manufactured articles of gold and silver^h. Yet, by a strange though not unusual inconsistency, while the fiscal laws endeavoured to confine the precious metals to Spain, the sumptuary laws limited their use with irrational caprice. For instance, the pragmatics of Toledo, in 1534, of Valladolid, in 1539, and of Toro, 1557, (although passed after a more extensive import had begun) forbid with as much or greater severity than any previous edicts, the employment of threads, orna-

^h Raynal. *Hist. des Etablissements et du Com. des Européens dans les Deux Indes*, tom. iv. p. 244.

ments, or webs of gold or silver, or the consumption of the metals in dress in any form¹.

To multiply examples would be needless; each succeeding Cortes harps upon the same string, and in one monotonous tone of complaint recites all the injuries suffered by the Kingdom from the growth of splendour and extravagance. The imperial traditions were faithfully copied by Philip, whose policy was in general yet more restrictive than that of his father; and if few new laws were passed during his reign, it was rather because none could be invented more severe than those which already existed, than from any dislike to draw tighter the bands of intolerance. Nor was Cortes wanting in zeal: not only do we find an incessant recurrence of prayers for the better observance of the ordinances of Charles V., but strong protests are uttered against the practice of granting licences to export money to which the government were reduced by necessity. It was not even allowed to carry gold or silver freely from one province into another; and if any were re-exported to America, the former paid four, the latter nine per cent. duty¹.

Towards the end of the Century, from causes which will be discussed hereafter, Spain exchanged that plethora of money, under which she had so long groaned, for as disastrous a lack of it. As might be expected, the attention of Cortes was incessantly occupied by this drain, and it was seldom that they met without praying for the execution of the laws already in existence or suggesting the adoption of further remedies. The Cortes of 1588^k, amongst others, complained that many foreigners had been entrusted with the farming of the taxes and duties; and that these men, more especially such as collected the revenues at the ports, took advantage of their opportunities to convey gold and silver out of the country; it was therefore desired that natives only should be allowed to farm the taxes. Still the metals continued to disappear, partly by export, partly doubtless by hoarding, till at length scarcely any remained in circulation, and Philip III. was reduced to coin a copper issue bearing the nominal value of silver¹. Such were the necessities, such the depth of humiliation to which the Lord of Mexico and Peru had sunk.

It would be affectation to deplore what was the legitimate

¹ Mem. de la Acad. de la Hist. &c. tom. vi. p. 276.

^j Raynal. Hist. des Deux Indes, tom. iv. p. 233.

^k Cortes del Anno 1588. Madrid, 1593.

¹ Raynal. Hist. des Deux Indes, tom. iv. p. 250.

consequence of a financial policy which had been adopted by the common consent of the people and their sovereign; the discredit of the commercial legislation however attaches more exclusively to the government; and this was even more disastrous in its effects than the laws which hampered the free course of the precious metals themselves. If a policy which aimed at keeping money within the country was common to all nations, the prohibition to export gold and silver was at least followed up everywhere but in Spain by a code of trading enactments directed towards the attainment of the same object. Importation was systematically impeded, and the exportation of articles of home production was encouraged in order to make a current of specie set without interruption towards the country.

If this policy was not judicious, it was at least consistent; but its latter portion was entirely reversed in the Peninsula, where the whole series of mercantile laws was not merely irreconcilable with the prohibition to export money, but can only be understood on the supposition that the precious metals were to be looked upon as the staple commodity of the realm, since scarcely anything else could be legally exported. The entire government theory of trade seems to have been hopelessly confused; and had it been possible to carry it out in practice with a rigidity at all approaching to that with which it was laid down, it is equally difficult to conceive in what manner goods could have been manufactured at home or paid for if imported from abroad. The proceedings of Cortes teem with petitions to restrain the export of articles of every kind. Those of Valladolid 1518 and 1523, of Toledo 1525, of Madrid 1528, of Segovia 1532, of Valladolid 1537 and 1548, require that no grain or cattle shall leave Castile^m. Those of 1548 put forth a long series of ordinances with reference to the manufacture of woollens, all of which might seem to be directed against the very existence of that branch of industry; the species of manufacture which chiefly occupied the weavers of Toledo, Cordova, and Ciudad Real was absolutely forbidden, and all exportation was interdicted. It is true that raw wool was nominally permitted to leave the country, but after several changes an

^m Mem. de la Acad. de la Hist., &c., tom. vi. p. 282. It was pronounced heresy by the Inquisition to export horses to France. Ranke. Ottoman and Spanish Empires, transl. by O'Reilly, p. 62. The Inquisition constantly interfered in matters connected with trade and the arts; in this instance however its motives may have been purely religious, since the chief strength of the Huguenots being in the Southern provinces: to allow the export of horses was to furnish the enemies of the church with the means of combating her champions.

almost prohibitory duty of four ducats per bale was imposed in 1566ⁿ.

The trade in hides was destroyed with equal completeness in 1550. Half a century before a flourishing export trade had been established; but, as invariably occurred when any branch of production attained some degree of prosperity, the fact of exportation was fixed upon as the cause of a rise in price, and it was absolutely forbidden to send raw skins or Cordovan leather out of the kingdom under penalty of forfeiture and death to the merchant. The last edict upon this subject had included a minutely graduated scale of prices to be charged for shoes and other leathern articles, but the tariff was so ruinously low, and it was enforced by the infliction of punishments so severe, that a large number of shoemakers abandoned their occupation^o.

The fate of the silk manufacture was precisely similar. The liberal encouragement with which Isabella had fostered its growth, elevated it into an important branch of national industry, and large quantities were purchased by the merchants of Tunis, Genoa, and Florence. But the Austrian government looked upon the native material with no friendly eyes, and in 1546 a fatal blow was dealt to the progress of its cultivation by a *pragmatica*, which after reciting that the production and export of silk increases yearly, and that new kinds of manufacture are being established, yet goes on to suspend all exportation during the next six years. At the end of that time it is almost needless to say that the prohibition was made perpetual^p. The same spirit breathed through every rule with which a meddling executive withered the budding industry of Spain. Nothing was too unimportant for interference, nothing too obviously useful to escape destruction^q. Yet while thus, with perverse ingenuity, the government laboured to hinder the growth of native manufactures and commerce, it gave every facility to the introduction of foreign goods; some were admitted without payment of duty^r, others were subjected to a very slight one. In all cases they were favoured at the expense of Spanish productions. Perhaps the most extraordinary premium upon foreign

ⁿ Ranke. *Ottoman and Spanish Empires*, p. 92.

^o *Mem. de la Acad.*, &c., tom. vi. p. 287 to 289.

^p *Mem. de la Acad. de la Hist.*, tom. vi. p. 290.

^q An amusing instance is afforded of the edict which prohibited the inhabitants of the Galician coast from exporting fish.[‡] As the country was almost entirely uncultivated, they had no productions to exchange for other articles but the fruit of their maritime labours, and this law condemned them in effect to a perpetual lenten diet.

^r The same ordinance which prohibited the export of native silk admitted that from abroad free of all duty.

articles ever granted by any government was that which formed the subject of an edict in 1552. All sacks of wool which passed outwardly through any port in the kingdom were to be registered, in order that the merchant should give security that within the space of a year he would enter by the same port a bale of linen and twelve pieces of cloth for every twelve sacks of wools which he had exported. The Cortes of Toro in the same year demanded that all exportation to America should be stopped on account of the rise in prices at home^s; or in other words they asked that the most profitable outlet for Spanish goods should be closed, and that a whole people should be cut off from the supply of nearly all their necessities of life. It is not easy to understand how the government was able to blind itself during so many years to the consequences of its measures, but the reasoning on which it proceeded in the commencement is obvious enough. It perceived that prices were becoming enhanced with alarming rapidity; it was ignorant that the only result which could flow from restrictions on manufactures and their exportation must be the arrest of production; and contrived to forget that foreign commodities must be paid for either with money, or with other articles. It supposed that by encouraging the introduction of merchandize from abroad, and by stopping the egress of Spanish goods, plenty and consequent low prices would be secured for the mass of the people. And as high prices were thought to bring riches to the merchant, so low prices would tend to benefit the nation at large, and thus enable it more easily to defray the expenses of wars, and to further the ambition of its sovereign. That this was the ultimate object which the government had in view in its endeavours to stop the advance of prices there can be little doubt.

Its whole economical system was so opposed to the usual practice in that age, that the existence of some special motive for its adoption is irresistibly suggested, and the characters of Charles and of his son accord too well with such an explanation of their policy to permit us to believe that they were actuated merely or even chiefly by a pure regard for the welfare of the masses. Selfishness was the predominant feeling in the mind of the former; selfishness united with bigotry swayed that of Philip II.; the actions and the policy of both must therefore be always looked at

* Sempéré. *Considerations sur les Causes de la Grandeur et de la décadence de la Monarchie Espagnole*, tom. i. p. 226.

with reference to this quality^t. It would prove too much to allege,—as the Cortes never resisted, and often even proposed the measures which were productive of so much harm to the manufacturers and commerce of the nation,—that general opinion must therefore have supported the policy of the government. The members of that assembly were in theory returned by the cities, and were supposed to represent the very class whose interests were so grievously wounded by the restrictive laws. The acquiescence then of Cortes in the enactment of such laws only tends to prove how completely it had sunk into a knot of government placemen, and how little its voice can be regarded as expressive of the national wishes. Yet, even had the people demanded relief by the suppression of native manufactures, the government must be held responsible for the existence of a financial condition so disastrous, and of taxes so excessive that these measures should be deemed necessary.

Were we obliged to search for any further evidence to support the charge of selfishness to which the Emperor and Philip are alike exposed, it would at once be afforded by the narrative of the relations between Spain and her colonies. Her policy with respect to them has been justly stigmatised as “the most perfect monument of systematic tyranny of which any age has furnished an example.” When Charles found himself master of Mexico and Peru, he at once determined to use them as the means of restoring his shattered finances. The revenue in gold could not satisfy his necessities; the custom house must afford a more certain contribution to his exchequer. A monopoly of colonial productions was therefore secured for Spain, while to the latter was arrogated the profitable task of supplying in turn the whole wants of a continent. To this end every law was framed, every measure was directed^v. The colonies were shut out from intercourse with the world, and death was the punishment allotted to the stranger presumptuous enough to land

^t Perhaps the character of Philip was never more tersely or forcibly painted than by his own hand, in a letter to his Ambassador at Rome. “Vous assurerez sa Sainteté que je tâcherai d’arranger les choses de la religion aux Pays Bas, si c’est possible, sans recourir à la force, parce que ce moyen entrainera la totale destruction du pays, mais que je suis déterminé à l’employer cependant, si je ne puis d’une autre manière régler tout comme je le desire, et, en ce cas, je veux être moi-même l’exécuteur de mes intentions, sans que ni le péril que je puis courir ni la ruine de ces provinces, ni celle des autres états que me restent puissent m’empêcher d’accomplir ce qu’un prince chrétien et craignant Dieu est tenu de faire pour son saint service et le maintien de la foi catholique.” Gaillard Corresp. de Philippe ii. Quoted by Martin, *Histoire de France*, tom. ix. p. 208.

^v Merivale’s *Lectures on Colonies*. Lect. i.

^w Some of the laws were enacted under Ferdinand and Isabella, but the oppressive turn given to the system was due to Charles alone.

upon their shores. Once a year only a fleet set forth from Seville laden with merchandize for their use; the ships which composed it were limited both in number and tonnage*; they touched successively at each port which enjoyed the privilege of trade with the mother country. As the establishment of manufactures was interdicted, as it was not permitted to grow the vine or the olive, as even agriculture was discouraged, Spain not only supplied the colonists with their luxuries, but with most of their necessities also,—with their clothes, their instruments of labour, their very provisions[†]. Hence prices were enormous; yet the duties were so excessive that together with the expense attendant upon the delays and the formalities which took place before the departure of the Galleons and the Flota, they sufficed to double the value of merchandize, and the profits gained by the merchant were probably never very large. Such as they were, however, foreigners soon began to reap the whole of them, and what Montesquieu says of a later period was equally true of the end of the sixteenth century. “Le roi d’Espagne, qui reçoit de grandes sommes de sa douane de Cadix n’est à cet égard qu’un particulier très riche dans un état très pauvre. Tout se passe des étrangers à lui sans que ses sujets y prennent presque de part.” The system produced the intended effects. The royal coffers were filled; the Peninsula received a never-failing supply of the precious metals; but it had been happier both for the mother country and for her colonies, had the latter been allowed to make use of those riches which nature scatters in such lavish abundance over the plains of America, instead of being forced to tear from the reluctant ground a wealth which only served to sweep one people from the face of their native land, to dwarf another in perpetual childhood, and to destroy the prosperity of a third with its pernicious influence.

We may touch lightly upon the manner in which internal traffic was regulated by the Austrian government, for we only find ourselves confronted by the same prin-

* Some of the regulations with reference to the ships are preposterously minute. See the *Recopilacion de las Leyes de las Indias*. eg. Lib. ix. Tit. 26. Ley 6. they are not to have oaken masts. Ley 22, accurate directions are given for building ships, with the dimensions according to which every part is to be proportioned “sin exceder un punto.” But this was only in consonance with the whole course of legislation with respect to the colonies. Everything was prescribed with extraordinary minuteness. The very sites of towns, the direction of the streets, and the size of the houses, were settled by men who had never left the shores of Spain. The legalised sale of every office (save a few specially excepted) was more iniquitous, but it was also more intelligible.

† Robertson’s *History of America*. Book viii.

‡ *Esprit des Lois*. Liv. xxi. cap. 22.

ciples as before, though they are clothed perhaps in a still more hideous mask. On the borders of every province the line of custom houses, which had existed when Spain was divided into several kingdoms, was still maintained—some articles were unable to pass, others paid an *ad valorem* duty, which, when the financial difficulties of the state became serious, were pushed to excess. In consequence all communication was stopped, roads ceased to exist, and the Valencian knew as little of the Murcian as if they had been subjects of a different sovereign². In 1530 the liberty of trade in grain and flesh was abolished, and shortly afterwards almost every commodity was subjected to equal restriction. In 1552 a *pragmatica* forbade any cattle to be sold except for the purpose of slaughtering, and at the same time it was ordered that certain persons should be appointed by the law courts to buy up the woollens at the seats of manufacture, and to resell them to dealers in other parts of the kingdom. When the stuffs had been once distributed in this manner, it became a punishable offence to transfer them to another market³. These are but examples which might easily be multiplied indefinitely.

A dry catalogue of laws, some mistaken, others dictated by the promptings of a tyrannical policy, has little to interest; but it would be impossible to estimate properly the real influence which the precious metals of America exercised upon Spain, without taking into account the other causes which were at work simultaneously, and which, while they derived no small part of their power and of their character from the manner in which they were complicated with the action of the gold and silver, yet operated independently upon events.

There is yet one question which must be settled before we shall be prepared to examine into the effects of these varied causes upon Spanish history.

What, in fact, was the state of the kingdom at the period when the influx of gold began? Had the wisdom of the Catholic sovereigns brought it to a pitch of wealth and industrial greatness such as it had never before attained, nor afterwards equalled, and which no other nation in Europe could then rival? Or must we rather believe that much of this vaunted grandeur is but a myth, born of the patriotic fancies of Spanish writers?

² Raynal. *Hist. des Deux Indes*. Tom. iv. p. 248.

³ *Mem. de la Acad. de la Hist.* Tom. vi. p. 291. In 1551, a *pragmatica* was issued which rendered all credit impossible; the same penalties which were annexed to the crime of usury were denounced against the practice of drawing bills bearing interest, or payable in any place other than where drawn; and this absurd law was confirmed in 1570. *Cortes del Año 1570*.

The close of the fifteenth century is the favourite era of native historians; they linger over the portrait of their beautiful Queen with something of personal love, and they never tire of counting the number of the ships which went forth from the ports of Spain, the populousness of her cities, the number of her looms. As they write they look back from the times of a Lerma, or a Principe del Paz, to those of a Gonsalvo de Cordova or of Columbus; what wonder that, while they gaze, the past should flush with brighter hues from contrast with the darkness of surrounding night? An inquiry into such reliable sources of information as can be found, will, however, induce us to mingle more sober tones of colour with the sunny tints which Spaniards delight to employ.

It is said that at the commencement of the sixteenth century Spain was one of the most industrious countries in Europe. It was perfectly independent of foreign supplies; it produced a boundless quantity of raw material, of which it manufactured the greater portion, and it exported more wrought than crude commodities; it had agents in the Baltic and in every port in the Mediterranean, and finally it could boast of a fleet numbering more than a thousand sail. Seville alone is reported to have afforded employment to 130,000 persons engaged in the woollen manufacture; Segovia consumed in 1520 no less than 45,000 quintals of wool, and Toledo and La Mancha even more. At the same time it is said that 435,000 pounds of silk were converted annually into stuffs at Toledo^b. The definiteness lent by figures seems to give authority to these statements, and the fragment of truth which underlies their exaggeration renders it impossible to disprove them entirely: but not a few contemporary records which have survived indicate that the general notion which they are calculated to impart is completely inadmissible. The scale of duties paid by the mereantile corporation of Burgos in 1514 gives a list of the exports which passed through that town; and if we bear in mind that it was the great emporium of the north, and was situated on the high road both to France and to the port of Fuentarabia, we may assume that the catalogue includes all the articles of any importance in which trade was carried on elsewhere^c. Yet there is an entire absence of all manufactured articles, and, in fact, no commodities of importance

^b Robertson's History of America. Book viii.

^c Capmany. Cuestiones varias sobre varios puntos de Historia, &c., p. The enumeration comprises iron, wine, oil, figs, and raisins; rabbit and goat skins, raw silk, wax, corn, liquorice, Valencian sugar and rice; and, lastly, wool for Flanders, Brittany, Normandy, and Italy.

are mentioned except wine, wool, raw silk, and goat skins. The same company published in 1537 a list of regulations relative to marine insurances, and this, as well as the port regulations issued in 1511 for Corunna, contains a precisely similar catalogue. If so great an export trade as is represented to have existed was really in being, where then was the seat of its operations? Andalusia alone can lay claim to the distinction, yet there may be ground for doubting the prosperity even of Seville, and, by implication, of the less vaunted cities of Jaen and Cordova. It might be asked what population would be necessary to supply a working power of 130,000 hands for the looms; but the direct evidence of the Venetian Ambassador Navagero is more conclusive. He describes the beauty of the city and the fertility of its environs, and proceeds to say that it owed more to nature than to art, for there were many open places within its walls, as if it were not fully inhabited; nor, though he states that corn, and wine, and oil, were sent abroad from the surrounding country, does he utter a word of its factories, or of its boundless commerce. Any large development of industry was, in fact, impossible, from the want of native capitalists. Even in the first half of the sixteenth century, the number of strangers engaged in Spanish trade was sufficient to call forth a remonstrance from Cortes, and a request that all foreigners should be prohibited under heavy penalties from carrying on any business, directly or indirectly, in the kingdom; and Sempéré gives a conspicuous place among the causes of Spanish decline to the lack of capital at a moment when the nation was obliged either to expand its industry from its own resources, or to take advantage of foreign wealth in order to meet the demands of a New World^d. But the commercial prosperity of Spain might be questioned on other, and perhaps still stronger, grounds. There is room for mistake in estimates founded upon the opinions, or even upon the recorded observations of individuals; there is no possibility of misinterpreting the effect of a tendency in national character, which we can still see bearing fruit at the present time whenever we cast our eye over lands inhabited by the Spanish race. If labour was not already looked upon as degrading before the discovery of America, one of the first results of that event was to add contempt of work to that idleness which was before inherent in the Spanish character. Venigas^e, writing

^d Consid: sur les Causes de la Grandeur et de la Décadence de la Mon: Espagnole. Tom i, p. 217.

^e Quoted by Capmany. Cuest: var., p. 44.

in 1537, could already declare that "in Spain alone are "mechanical employments considered dishonourable—an opinion which produces abundance of idlers and prostitutes, with all those vices which spring from sloth."

There is little in these facts to support the vague and hasty assertions of Spanish writers with respect to the commercial greatness of their country; in fact, the nation was most likely as poor, or even poorer than France, and the time was past when mere superiority of numbers could outweigh the lack of pecuniary resources. Spain had even now begun to live upon her reputation. She had driven the Moslem from her shores at a moment when the Turks pressed sore upon Germany, and when they threatened to carry their arms beyond the Adriatic, and in the contrast of fortune Europe overlooked the contrast of circumstances. The belief in Spanish strength, and the fear of her prowess was fixed by the victories of Gonsalvo de Cordova; yet it was by his genius, rather than by the hosts of his warriors, that the Great Captain placed the crown of Naples on the brow of his master; and the exhaustion from which the finances of Aragon suffered long after the termination of the contest proved the weakness of Spain for offensive efforts. Nor can we admit that the Imperial reign owed the chief part of its brilliancy to the share which Spain took in carrying out the aims of Charles. His armies were largely recruited from the Walloon country, from among the German Lanzknechts, and the Italian Condottieri; and, what is still more important, Castile supplied none of the funds which were necessary to establish his predominance. If Spain was the centre round which his policy turned, Flanders gave the machinery by which that policy was set in motion; there he found the true basis of his power; there he discovered the true fountains of exhaustless wealth. Spain itself was perhaps capable of greater efforts in his hands than in those of Ferdinand, but if so it was solely owing to the organisation with which the Emperor had endowed the monarchy. What results this organisation might have produced, and how its advantages were wasted, we shall ultimately see; for the present we may conclude that Spain in the commencement of the sixteenth century was far from possessing that solid strength which we have been wont to ascribe to it. Yet there is little reason to doubt that it was on the whole more flourishing than at any subsequent era, and that its condition after a century of Austrian rule was infinitely worse—whether we test that condition by the

extent of the national power, or by the amount of individual happiness and well-being. How far this result was brought about by the influx of the precious metals, either directly, or through their influence upon mercantile legislation, is the question which now remains to be considered.

As between the discovery of America and the year 1545, the cost of production had risen almost equally throughout all Europe, except Italy, where prices had long been higher than elsewhere, no foreign manufacturer can have occupied a more favourable position at the latter period with respect to Spain, so far as international exchange is affected by the price of labour, than at the commencement of the century; yet the restrictions upon the export of gold and silver were in full operation, and they were enforced with all severity; if then bullion or money left the Spanish frontier, it could only have been by clandestine means, and it is hardly credible that the prohibition directed against their egress was at this early period so utterly ineffective that the quantity which was exported could equal that which remained; especially as the very fact that the rise of prices was simultaneous in Spain and in the rest of Europe would prevent the state of commerce, even if momentarily favourable to the export of money, from long remaining such as to make it worth while to incur the risks which attended the exercise of the forbidden traffic. At the same time no export of importance can have taken place on behalf of the government during the first thirty years of the century, because in Spain, as in every other province of the Imperial dominions, except Flanders, the revenue was exactly balanced by the domestic expenditure. In the later part of the reign the surplus, which the Low Countries had afforded, no longer satisfied the war expenses of the monarchy; and almost the whole revenues, and those of Castile among the rest, were then pledged to the Fuggers of Augsburg or to Genoese merchants, the current expenses of Spain being defrayed from forced loans and *servicios*^f. The export may then have

^f The ordinary income of Charles was calculated at 900,000 ducats from Spain; 400,000 from Sicily; 1,250,000 from the Netherlands, which were much more lightly taxed than the other provinces; 400,000 from Milan, and 1,000,000 from Naples. These sums were all expended in the several provinces, in some cases from necessity, in others because the provincial councils objected to lend their assistance to carry out any line of imperial policy. Flanders was the only state which allowed itself to be drawn upon to a large extent. The expenses of its government did not absorb the whole of the ordinary taxes, and it gave about once in two or three years extraordinary contributions, besides paying its share of a donation of 400,000 ducats which was generally granted by the various pro-

reached 900,000 ducats a year, but the influx from the mines was increasing, and moreover a portion at least of the borrowed capital must have been disbursed in Spain itself; so that the actual loss was probably small, especially as the payment of interest to the creditors was often totally suspended. The quantity, therefore, retained in the kingdom must have been far greater in proportion to its size and wants than the amount which existed in the rest of Europe. How then can we explain the fact that an ever increasing mass of gold produced no perceptible effect in raising prices in Castile more than elsewhere? The answer must be sought in the general condition of Spain, and of the other nations with which she is contrasted.

In England, Germany, and France, prices received an impulse from the expansion of commerce and of industry, because, when the mercantile energies of a state are newly aroused, the desire for goods of all kinds is apt to increase faster than the means of supply, and prices accordingly rise until the latter are adjusted to the demand. In a partially civilized condition of society, such as that in which Europe, with the exception of Italy, still remained during the sixteenth century, there is a strong tendency among the upper and middle ranks to gratify a love of magnificence and luxury, rather than to apply their newly-gotten wealth to further production; and this, together with the imperfect organisation of trade, and the influence of ill-contrived laws, renders the adjustment so tardy that a generation may pass before a sufficient addition is made to the number of cattle reared, or to the area of land under cultivation. An allowance must therefore be made for an enhancement of prices due to this cause, as well as for that due to the greater mass of money in circulation. But by the middle of the century the increase of production in Europe had probably overtaken the increased demand, and hence prices began to rise at a diminished pace^s; on the other hand, in

vinces in addition to the ordinary imposts. The produce of the Cruzada Bull—a very variable source of revenue—was the last item of the Imperial income.

^s It is worthy of remark that prices doubled in Europe between the discovery of America and 1545, while the amount of the precious metals in circulation increased only 50 per cent.; yet, subsequently, between 1545 and 1600, under the influence of an increase of 100 per cent. in the circulating medium, prices only doubled a second time in Europe generally, and tripled in Spain. This more powerful effect produced by the less quantity of gold in the earlier period is clearly owing to the small bulk of the currency which already existed, and to which the addition was made, in comparison with that which awaited the fresh access of importation in the middle of the century, and also to the effect of the rise in prices itself, which prevented any given quantity of gold or silver in 1550 from fulfilling the same functions as in 1500. No account has

Spain itself some of those mercantile laws, which turned the influx of the precious metals into a source of evil to the kingdom, were not enacted, and others had not yet had time to bring forth fruit.

The American trade itself, which at one period, perhaps, imparted a false stimulus to Spanish production, for a very few years, must have been as yet exceedingly limited; for it is asserted that the whole number of Europeans in Mexico and Peru, in the middle of the century were not upwards of 18,000^b. The land was occupied by a garrison, rather than by settlers, and the traffic with the mother country was, therefore, confined to articles of bare necessity. The gold which reached Europe was so far pure gain that it consisted hitherto chiefly in the fortunes realised by adventurers, and in tribute offered to the sovereign. It was the discovery of Potosi which altered the complexion of American society, and placed it upon new foundations. Thenceforward cities were built with reference to trade rather than to defence; wealthy individuals began to settle on the spot in place of returning to Spain so soon as they had amassed a competency; their wants multiplied; trade received an impulse, and with its increase the whole evils of the commercial system of Spain were brought into full relief.

The events which followed belong to the next era; previously to which the conclusion is forced upon us that the *direct* effect of the increase of the currency in Spain was limited practically to a formal change in the denominations by which values were expressed.

Were then the precious metals destitute of power? Must we believe that the golden tide swept impotently against the fabric of Spanish society, that harmless waves dashed against its foundations in vain, and passed away without leaving any trace of their presence? Let us appeal to history for an answer. She will respond in words which convey a solemn warning to those despots who are willing to buy the evanescent glories of a few years by the miseries of their native land; she will teach us how the deeds of a Charles or a Louis XIV. recoil upon their own heads even in this life, and how posterity will tear from their brows those laurels with which their dazzled contemporaries have crowned them.

No sooner had Charles ascended the throne of Castile, than he found himself engaged in a contest with the Commons.

been taken of these facts in the text, as Spain was only affected by them in the same manner as other countries.

^b Merivale's Lectures on Colonies, Lect. 1.

The little respect which he showed for their prejudices and their rights, the favours which he heaped upon foreigners, the profuse expenditure of his court, roused every personal and national feeling. It was not long before discontent took the form of insurrection; but the unaided strength of the people was insufficient for the struggle, and the nobles, with fatuous blindness, ranged themselves on the side of authority. The crown triumphed on the field of Villalar, and from that moment an unbroken stillness reigned throughout the kingdom. It was the stillness of political death. No will thenceforward was known but that of the government, no word was breathed but by permission. The Cortes dwindled into an assembly of obsequious placemen, the frequency of whose meetings best proves their insignificance. The Nobles, who were wont not half a century before to hold feudal state in their castles, now lounged in the ante-chambers of Toledo, and cringed for the favours of their king. Isabella had forced them to obey the laws; Charles converted them into a race of idle and dissolute courtiers. In effecting this change, and in trampling out the independence of the Commons, he had destroyed the living principle of the nation, but of this he was ignorant and perhaps careless. Spain lay at his feet, a passive instrument for his ambition: a new continent poured out its treasures for his use; the free spirited cities of Belgium acknowledged his sway; the Princes of Germany owned him as their head; what wonder that his mind was fired with lofty conceptions, and indulged in projects too great to be realized? From the moment when he received the imperial crown he embarked in a course which he never abandoned throughout his reign, though often obliged to swerve from his way, or even to stop for a season. He offered to Castilian Pride the mastery of the world, in exchange for public liberty; and if he did not succeed it was because an universal empire was impossible, for the advantages which he enjoyed were such as no other aspirant in modern times has been able to command. To the ownership of lands, fertile in soldiers, he added the possession or the protectorate of the richest cities of the world; and while other nations were yet in a state of transition from feudalism to a new order of things; while they had lost the power of individual and spontaneous action which distinguished the middle ages, without having acquired the organisation and unity of modern society, Spain was already consolidated under the type of political civilisation which has since prevailed in Europe, and Charles had anticipated

by more than a century the work of Richelieu and of Louis le Grand.

The immediate effects were an overpowering energy and definiteness of policy, and for a few years the results seemed as real as they were dazzling; but the servitude of nations is sooner or later avenged, and despotism saw its fondest designs thwarted and its power crumbling away with more than usual rapidity from the weakness which it had itself created. Debt began to weigh heavily upon the revenue; the public income was absorbed in the payment of its interest, and it was necessary to impose fresh taxes. But an impoverished people groaned under an advance of prices, and before they could endure new burdens it was necessary to find some means to relieve the consuming classes from the pressure of the former evil. Even yet it was not too late, by reversing the commercial policy which had governed the past, to restore the material prosperity of the nation, to give effect to the organisation which it had received, and to lead it forward in the path of conquest: but instead of doing this the government made the prohibition against the exportation of gold more stringent, admitted foreign goods to the discouragement of native production, and referred Spanish manufactures and merchants to the American trade as a means of compensating for their losses. Still the prices rose, and again the same corrections were tried; but the nation still grew poorer and the finances more involved, until the difficulties of the government became so great that a measure of repudiation was imminent.

The influx of gold had done its work. It had suggested or imposed a system of legislation which had given deadly power to a national malady, which otherwise would have caused but a passing weakness, such as that with which France paid under Louis XV. for the gigantic efforts of his predecessor. At this crisis Philip ascended the Castilian throne, and he at once began to gather the fruit of that poison tree which his father had planted. The very year after his accession he was obliged to send Gomez de Silva into Spain to mortgage the revenue; offices were put up to auction; loans were obtained at exorbitant interest from foreign capitalists, and were exacted from native merchants under vague promises of repayment; yet with all these expedients it was necessary to apply to the states of Belgium for a grant of 1,500,000 ducats¹. It is at this moment, when the finances were being involved in such

¹ Prescott's History of Philip II., vol. i.

inextricable confusion, that the precious metals first appear as a distinct force, and that their direct influence can be traced in aggravation of the existing evils. However large was the actual yield of the rich mines at Potosi during the first few years after their discovery, the amount was small in comparison to what was obtained after 1557, in which year the process of extracting silver from the ore by amalgamation with mercury was discovered¹. Then, however, the production of silver immediately quadrupled, and prices, which had begun to rise on the first opening of Potosi, received a fresh impulse from the new accession of specie within a very short period after the full resources of the new vein were developed. The rise was however unequal. Prices had hitherto doubled in the whole of Europe alike; they now at least tripled in Spain, and merely doubled a second time in France, England, and Germany. Two causes combined to this result. In the latter countries a progressive increase in mercantile transactions was become as much the natural condition of their markets as stagnation in trade had been formerly, and so long as the increase in production continued at a rate proportional to the growth of population and demand, the tendency of prices was to remain stationary; nearly the whole of their rise after this time may therefore be assigned directly to the enlargement of the circulating medium; until the mass of the precious metals in Europe became so great that the annual influx from the mines lost their disturbing power, which took place after the years 1620 or 1630. In Spain itself, on the other hand, trade was bound with its last and heaviest fetters at the moment when Potosi began to inundate the Peninsula with larger floods of bullion. The weight of these restrictions bore down the prosperity of the nation at once and for ever; its resources were sapped; the wealth of individuals was dissipated, and the demand for foreign commodities was accordingly diminished. In a short time, owing to the retention of money within the kingdom, imported goods reached a price so excessive as to limit the demand still more, and hence the contraband trade, instead of expanding with the influx of the precious metals, perhaps declined, or, at least, remained stationary.

In the absence of any other outlet for specie the drain caused by the expenditure of the government, great as it now was, seems to have been insufficient to relieve the

¹ Jacob's History of the Precious Metals, vol. ii., p. 59.

glut; so that until the Flemish, and still more the English wars, completed the embarrassment of the finances, the annual loss did not perhaps more than make up for the retentive effect of a contraction in mercantile dealings. A plethora of money naturally ensued, which acted upon prices so strongly that in the course of a very few years they rose more than in the whole period which had elapsed since the discovery of America. But it was impossible to escape a reaction from so unnatural a state of things. After a certain point, specie began to flow out of the country more rapidly than it poured in. It was ultimately found that foreign commodities could be purchased and resold with an enormous profit, at a price which barely covered the cost of production at home, or perhaps even for less. But for what were they to be exchanged? If for those raw materials which had formerly been the subjects of exportation in Spain, the rate of exchange would be such as to destroy all profit; money was the only cheap commodity, and the foreign demand for it was practically unlimited. It was therefore employed to the exclusion of all other merchandise, and every payment was made by its means, till almost the whole fund of specie was drained from the country. This might seem an effect in excess of the cause, were it not that the state of American trade and of the finances contributed to limit the stock which was subject to the drain thus arising. As the nation became poorer, there were no longer found men to engage in commerce, both from the actual want of capital, and from the increasingly low estimation in which mercantile pursuits were held. Strangers therefore settled in the ports, but as the Indian trade was prohibited to all but natives, they managed their business under the name of some Spaniard, who was ostensibly the responsible merchant, and who received a per centage for his compliance. When the traffic thus centered in foreign hands, Seville became merely a port of trans-shipment, at which gold, silver, and other commodities touched before their final distribution. Hardly any specie found its way into Spain; some of it passed through Seville clandestinely; some of it paid the Quinto, and then was re-embarked for France, or Italy, or England^k. Thus the

^k The Quinto, according to Tiepolo, amounted in 1567 to 500,000 ducats; after 1570 it averaged 800,000 ducats [Ranke's Ottoman and Spanish Empires, p. 89]; but latterly the whole of this sum passed into the hands of foreigners without even being temporarily circulated in Spain. The amount itself varied greatly, according to the activity of the contraband trade. A fact stated by Martin [Hist. de France, Tom. viii. p. 452,] may give some idea of the extent to which the government was defrauded. In 1557, out of 8,000,000 entered at

stream of bullion was entirely diverted from the Peninsula, and the fund from which payment was made for imports required for domestic consumption consisted entirely in the money already in circulation.

Nor was this all; the small stock which thus remained was further drawn upon for the supply of Imperial necessities. When Philip mounted the throne he discovered that of the 920,000 ducats to which the ordinary revenues of Spain amounted, no less than 800,000 were required to pay the interest of debt. The finances of Naples, Milan, and Flanders were burdened even more severely, and a large unsecured debt existed in addition, on which twenty or even thirty per cent. interest was paid¹. Taking the latter into account, even the extraordinary supplies granted almost yearly by Cortes and the states of Flanders and Naples will appear to have been insufficient to satisfy the demands of creditors, and the expenses of government had to be defrayed by means of fresh loans. A prudent abstinence from exhausting wars prevented Philip from involving himself at once in extreme difficulties, yet even in the opening years of his reign he was obliged to have recourse to expedients as oppressive as they were dishonourable. The somewhat languid war which was carried on with France sufficed to compel the adoption of an arbitrary measure by which the specie arrived from America on private consignment was seized for the purpose of government. This was regularly done from 1555 until the Peace of Château Cambresis put a momentary term to his difficulties. If however a large drain existed in a comparatively peaceful time, and was consistent with the formation of that glut of the precious metals which was contemporaneous with it, we may expect to find more intolerable oppression and vaster exportations for government purposes when the people complain that money is fast ebbing from the kingdom, and when great armaments are fitted out to conquer abroad and to put down revolution at home.

Such is in fact the case. Not to pursue the course of financial history in detail, a few significant facts need only be adduced, which may serve to indicate the extent of the pressure under which the finances, and by consequence the people suffered. In 1567 the appropriations of gold and silver recommenced at Seville, and were continued at short

Seville, the crown could only obtain 500,000, or about a third of the legitimate sum.

¹ Ranke's *Ottoman and Spanish Empires*, p. 87.

intervals throughout the century. In 1575 all assignments on public revenues were suspended, and a compromise for fifty-eight per cent., which was ultimately agreed upon, was thought not unfavourable to the creditors. In 1596 the Bankruptcy was renewed. At the same time fresh taxes, servicios, and forced loans were continually imposed^m. The whole revenues of the country, even when supplemented by the employment of every means whether legal or illegal, were thus clearly insufficient to pay the interest of debt, the capital of which increased with rapidity which proves that the whole war expenses of the nation, if not the very machinery of government must have been carried on almost solely with borrowed money. If we take this in connection with the influences to which we have already referred, we shall cease to wonder at the deficiency of money which was felt in the Metropolis of the Indies; but we shall find ourselves in presence of a startling anomaly.

It might have been expected that so soon as the currency was sensibly diminished, prices would have fallen, and the cost of production being reduced, that a demand for Spanish raw material would have revived in foreign markets. No such fall in prices however took place. The cause of this peculiar and unfortunate feature in the economical history of Spain is not free from obscurity; it will therefore be well to investigate with some minuteness what the natural course of events would have been in a nation so situated as Spain then was; that is to say, with a range of prices greatly above those of other countries, and with no other important exports than gold and silver.

Let us suppose that on the whole mass of commodities produced in the country the average excess in the cost of production as tested by the precious metals over that of commodities produced in other countries is as six to four; in other words, that on the average an article which costs six ounces of silver within its limits costs only four ounces outside its frontier. It will of course be for the interest of the people to import all foreign articles fitted for their consumption, and their stock of specie being at first large, and the exterior demand for it being practically boundless, not only luxuries, but to a large extent necessities also will be imported in such quantities as to displace native production altogether; this will continue to take place until the quantity

^m Ranke's Ottoman and Spanish Empires, p. 95. The Alcavala—a duty on all purchases was gradually raised, till it reached 14 per cent.; government monopolies were increased in number; and a new tax under the name of *Millones* was imposed, in 1589, which was intended to produce 8,000,000 ducats in six years.

of foreign commodities which at first exchanged for six ounces of silver will only exchange for so much over four ounces as suffices to cover the cost of transport, and to satisfy the merchant for the risks incurred in the process of importation; prices will then remain stationary, until internal production is to some extent revived, and articles are produced either of the same kind as those received from abroad, or such as can be less advantageously produced in other countries. In the former case prices will remain stationary, and the importation will decrease; in the latter, prices will probably fall to a still lower level. If this course of events be compared with that which was visible in the Peninsula, the same causes will be discerned working apparently to a different end, or at least existing together with facts of a completely opposite nature. The key to this discrepancy must be looked for in the quality of the imported articles as determined by the peculiar causes which operated in Spain. The cost of all production in that kingdom was kept up by an excessive taxation, which weighed with impartial severity upon the inhabitants of the country and of the towns. "How," asks the Cortes of 1594, "can anyone carry on trade if he must pay 300 ducats in taxes upon every 1000 ducats of capital? The capital is eaten up in three years; if any one will still be a trader he must raise his prices in such manner as to cover his own losses at the expense of the consumer." In conformity therefore with natural laws, all production should have stopped, and the kingdom should have derived the whole of its food and raiment, no less than its spices or its furniture, from foreign sources. This, however extreme it may appear, was but the natural result of the policy which was in vogue; and it probably did occur to a great extent in the frontier districts, and in those which lined the sea-board; for we know that Valencia, of old so renowned for fertility, was reduced to little better than a barren waste in the sixteenth century. It was different in the interior; for when goods of small value in proportion to their bulk attempted to penetrate thither, they were met by almost insurmountable barriers; their path lay across trackless plains of sand, through rivers destitute of bridges, past custom houses which guarded the entrance of every province, and which were scarcely less formidable than the robbers which infested the mountains. Hence by the time that a bale of common cloth, or a skin of leather, arrived in the markets of Castile or Estramadura, its cost had necessarily become equal to that of the native fabrics, the price of which was not burdened by the additional cost of transit,

since every town was a centre of manufacture for its immediate district, and contented itself with supplying exclusively the wants of that narrow circle. Importation then was limited to articles of expensive character, which from the impossibility of their being produced in Spain commanded prices large enough to repay the merchant for encountering the risks and difficulties of carriage. Notwithstanding the general poverty the demand for such commodities was always large; for a few nobles and a few officials rendered wealthy by corruption, possessed and misused exorbitant riches. All who did not belong to this small but luxurious section of the community went to swell the numbers of dependent adventurers or of agriculturists; all needy, all miserable alike. The wants of the former were satisfied at an extravagant rate from abroad; the latter depended chiefly upon the resources of Spain. Thus the two markets did not enter into competition with one another; they dealt in different kinds of goods, and they were as distinct as if they supplied two separate nations. It was therefore impossible that prices should fall until a diminution of the taxes should lower the cost of production in Spain, or until the improvement of its means of communication should permit the introduction of such foreign goods as might contribute to supply the wants of the lower orders. We can now perceive how the quantity of money in circulation may have been found inconveniently small without any causes being put in operation which might succeed in arresting its efflux, and without any fall of prices occurring as its result. The merchants engaged in foreign trade found it the most convenient subject to barter for goods of other descriptions, and they accordingly exported it without reference to the state of internal commerce; which, on the other hand, while it alone felt the inconvenience of a deficient currency, was yet powerless to obstruct the progress of its diminution.

At first sight it might appear from what has been stated that after all production in Spain must have been as active at the termination as in the commencement of the sixteenth century. This however was not the case; though after deducting the quantity of raw materials, which was exported at the earlier period, the commodities produced had to perform the same functions. The general purchasing power of the community had decreased, both absolutely from the decline of population, and also relatively to the number of the people. In the genial climates of the South, very scanty clothing, and still scantier nourishment, are consistent with a life not destitute of enjoyment; and the class of

idlers and mendicants, of whom we hear nothing under Ferdinand and Isabella, but whom we can trace in ever increasing numbers throughout the century following, may probably have exceeded half a million at the time when misery reached its height under Philip III. The grade of smaller gentry had entirely disappeared; their poverty had excited the pity and the remarks of Cortes so early as 1570^a; and the mass of them soon took refuge in monasteries, or sank into the body of the people. Lastly the inhabitants of the towns, who had generally occupied a position of comfort, were now reduced to a still lower state than any other rank, in comparison with that in which they had formerly lived. It is manifest therefore that no great amount of production need be supposed, when the people in general are said to have derived their necessities of life from the internal resources of the country.

The last phases in the economical and financial history of Spain have now unfolded themselves. Already the giant power, which threatened so recently when exulting in the morning of its strength to trample all Europe under its feet, totters in the weakness of premature old age. Already its children are sensible of the change; already they demand some remedy for the disease, some means of escaping from the deadly palsy which has seized their father-land. "The truth is," says the Cortes of 1594, "and there can be no doubt of it, that the whole kingdom is feeble and exhausted, so that there is hardly one man left who has either property or credit."

Yet in the midst of this utter prostration, Spain was active, aggressive; she pushed on every side her arms and her intrigues, she subsidised the League in France; she waged ceaseless battle in the Netherlands and in the waters of the Mediterranean; she added Portugal to her dominions, she threatened the liberties of England. Have we then misread her history, overrated the progress of her decline, and exaggerated the elements of her weakness; or whence this strange difference between the fact and the seeming? We answer, that she wielded a moral force which had been wanting to the empire of Charles in the past, and in which France, torn by conflicting beliefs, was not less deficient in the present. In the former, accident had bestowed a vast aggregate of incoherent states upon one man, and the will and the policy of that one man held them together; but they were bound by no natural tie; and no community of interests,

^a Cortes de Cordova del Año. 1570. (Alcala, 1577.)

^o Mem. de la Acad. de la Hist. de Madrid. Tom. vi. p. 304.

no sympathy of races, secured their junction in the future. Charles endeavoured to force them into oneness for the benefit of himself and of his family, and this principle, this subordination of the welfare of millions to the interests of one, was the ultimate hinge on which his policy worked; it was the sole cord which fastened together the incongruous provinces of his empire. With the life of Charles passed away the life of his monarchy; the imperialism of family must establish its power quickly and sternly, or the opportunities which chance has afforded will vanish for ever; and as that quickness was not possible in the dominions of the Austrian dynasty, the attempt which it made to conquer the empire of the world was broken between the opposing elements of German and of Southern blood, of Protestantism and of Romanism; it was shattered between the pretensions of the conquerors of America and those of a traditionary Imperialism.

Spain, divorced from Germany, to which she had been linked in unnatural union, marched forward to supremacy by a new road. Her people no longer claimed universal empire for their personal interests alone; they claimed it as the faithful sons of the Church, in the interests of the priesthood, of the papacy, of religion. As Loyola was the creator and impersonation of the anti-protestant reaction in morals and religion, so Philip was its impersonation in politics. It was no longer to Rome, but to Spain, that Catholics looked as the fountain whence ideas and power welled forth over Europe; consequently, the moral force of the latter was enormous and it served to disguise the decline of material power from the nation itself no less than from strangers. Hence enterprises beyond the strength of the monarchy were undertaken, and failed, and resulted in greater weakness, in greater embarrassments. The influence of the Spanish empire fell, and dragged with it in its fall everything which Philip had passed his life in supporting and defending. All which he had wished to humble was arisen in might; all which he had wished to kill lived and flourished. Protestantism! It was established in England and in Holland.—Tolerance! It was established in France.—Liberty! It was established in the Netherlands.

We have hitherto looked from the side of economics and of political history alone at the influence exercised by the precious metals of America upon Spain: there is another light in which they must be regarded, not less important, though more difficult to appreciate.

The mental life of a nation is as sensitive to impressions as that of an individual; every passing event, every opinion seized but for a moment, leaves its mark for a while or for ever. But how perplexing is the result. Who shall attempt to analyse the colours which mingle in the sun-lit cloud or sparkling wave? And still more who shall pretend to seize the endless changes of a people's mind, and distinguish the cause which prompts each impulse and idea which surges upon its restless face, and is stirred into activity by the occasions of a time. In the sixteenth century every nation in Europe was emerging from youth into full-grown manhood, and was taking that final shape which it was destined to keep for ever; how are we then to discriminate between that which was the development of qualities already latent, and that which was added by the influences of the age? It would lead us too far from the main path of our inquiry to examine with any accuracy the sphere within which the gold and silver of America acted, and we must therefore content ourselves with a hasty glance over the surface of a question well worthy of a deeper study, since more than any other connected with the Colonies of Spain it may be fruitful in lessons to ourselves. We boast of avoiding the more glaring mistakes which the European powers were wont to make of old in the treatment of their possessions beyond the seas; and we think that in refraining from injustice to the colonies themselves, we remove the fang which might sting us hereafter; perhaps we hardly reflect sufficiently that there is a more insidious mode in which a people may be injured by such of its colonies as possess the fatal gift of gold, and that the touch of that metal is only too powerful to mar the character of the nations which finger it over-much, or which value it over-dearly.

The Spanish mind, which seems to have been unusually fitted to receive those influences which America was fitted to impart; always deeply tinged with the love of adventure, was coloured with it yet more deeply than before by the discovery of the new world, and every tale which was borne homewards across the Atlantic helped to inflame the popular imagination, and to render it more impatient of the sober duties of an industrious life. The discoveries of Columbus, of Cortes, of Pizarro, were little like those of other European commanders. Instead of shivering on the inhospitable cliffs of the St. Lawrence, they revelled in tropic splendours; instead of bowing to the caprice of an Eastern monarch, they dictated laws to the children of the

sun; every Spaniard was an aristocrat by virtue of his blood, and he imbibed notions of pride and superiority in the west which he brought back with him into Europe, when he returned to impart his experience, and to communicate the spirit of enterprise at home. The settlers, deigning only to reap wealth from the pursuit of gold, were not long in becoming unfit for serious labour, and America was soon the school where habits of indolence and corruption were most readily learnt. Its teachings fostered the natural bent of the Spanish mind, already too prone to sloth, and enlarged the countless throng of idlers who ate into the resources of the kingdom. The decline of commerce might enforce abstinence from work, but it is to be feared that many adopted that life from choice and pride, to which necessity would otherwise have compelled them. The evil extended to every rank of society. Among the nobility a system of entails more narrow than has ever been introduced elsewhere deprived every cadet of the means of subsistence, and as he could not exercise any trade or handicraft, under pain of losing his rights of gentle blood, he was driven to emigrate, to assume the cowl, or to linger in dependence till importunity or interest procured him one of those numberless offices which aided to weigh down the much burdened natives of Spain. To such an extent was dishonesty carried that we are told five, six, or, at most, ten years, were enough to ensure the fortune of any official. In like manner the common people preferred the hard life of a beggar, or a smuggler, to the more regular livelihood afforded by tillage. It soon became a proverb that a stranger might describe Castile as a land of fertile plains, covered with nettles for want of hands to cultivate the ground, and with a population of idlers, of whom one part were called nobles, and the other portion wore the mendicant's cloak^p. The prevalence of these habits threw the trade of the country more and more into the hands of foreigners, and it is stated that in 1610 no less than 170,000 dwelt in Castile, of whom 10,000 were Genoese carrying on retail trades and manual occupations which the starving Spaniard declined to exercise. In 1619, Moncada declared that five-sixths of the home traffic, and nine-tenths of that with the Indies, was in their hands. In the middle of the same century a French traveller, who paints with life-like touch the Spanish society of his time, mentions that there was such a dearth of hands for even the ordinary works of husbandry, that labourers came from Bearn and other parts

^p Capmany—Cuest. var. sobre var. Puntos de la Hist. &c., p. 47.

of France to assist in gathering in the crops. Most of the masons and carpenters, and nearly all the shoemakers and tailors in Spain were strangers, and of the water carriers in Madrid not one was a native^a. We may, therefore, hear with little surprise that, although the revenues of the Church were already enormous, and although the bigotry or devotion of Philip III. and his courtiers instituted new monasteries, and augmented the incomes of older foundations, yet that their wealth was hardly sufficient to feed the numbers which crowded into them under the influence of poverty or of superstition. Of Franciscans and Dominicans alone no less than 32,000 were counted in Castile, and the spiritual wants of the diocese of Catalonia were provided for by 18,000 chaplains^r.

When every order in the state was alike degraded and impoverished, there was little room for that fusion and re-arrangement of classes, which had begun in the more happily circumstanced European nations, from the extension of commerce on the one hand, and, on the other, from the diminished power of the landed interest. In them, although the rise of prices affected products of the soil as forcibly as other commodities, the aggregate quantity of the former was not capable of an enlargement so extensive as that which was occurring in other articles of traffic: and hence, while the means of individual proprietors of land were being greatly augmented from the fresh spur imparted to cultivation, the proportion of the national wealth held by them as a body declined from day to day. The middle classes began to absorb the bulk of the riches, and the numbers both of England and France, and prepared to shake the very foundations of their political institutions; in the former by immediate action, in the latter by a train of thought which was inaugurated by the philosophical speculations of Descartes, but which was destined to penetrate every corner of society, and to bear fruit at last in revolution. The Spanish race had no such principle of movement. On the one hand their religious prominence was transferred to the rival branch of the House of Austria not long after the death of Philip; on the other, while the framework of their constitution remained, as ever, unchanged in form, in spirit it was effete beyond hope of

^a Voyage d'Espagne, curieux, historique et politique, fait en l'annee, 1655. Amsterdam, 1656; p. 153. The work is anonymous, but is evidently written by an acute observer, who apparently enjoyed unusual facilities for acquiring information; he seems to have held some diplomatic appointment.

^r Sempéré. Consid. sur les Causes, &c. Vol. ii. p. 6.

recovery. Whence in truth could the vivifying spark proceed? The towns retained their organisation, but they had lost their hold upon Cortes, through which alone they could act, and their indigence would have deprived them of the power to initiate, even had they been in other respects more fit to assume the right. Cortes itself, which had occasionally dared to conceal its want of real influence under a tone of vigorous remonstrance when the conduct of Charles or Philip inspired it with uneasiness, shared in the general apathy. Its existence is hardly noticed; its proceedings rarely chronicled. The Nobles vied only in servility towards the King, in haughtiness towards the world. Vain disputes for precedence, gambling, intrigue for pensions or commanderies, were the incidents which filled an idle and objectless life. A King without intellect or character, a Minister with no decided quality but bigotry in religion, were governed by ecclesiastics whose only aims were to advance the interests of themselves and of the Roman Pontiff. These were the elements of Spanish nationality in the seventeenth century; these were the men who ventured to dispute the independence of Portugal, whose pride revolted from any formal acknowledgment of liberty in Holland, and who dared, with insane confidence, to measure their strength with the growing power of France. Untaught by the miseries of the country, untaught by repeated disasters abroad, the Council of Castile, while mourning over the decline which it could not but observe, was yet unable to give up the thought of Spanish dominion; it told the King that with the money, which had passed into his exchequer, the world might have been conquered^s, and in avowing that the wish was still a cherished aspiration, it could not refrain from adding its belief that some hopes of its accomplishment might even yet be entertained.

There were yet other consequences which flowed from the working of the American mines, as injurious perhaps to Spain, and far sadder in their effects upon the well-being of mankind at large. Even now, one cannot read without somewhat of horror how the native population was sacrificed to unholy lust for gold; how thousands after thousands were taken from their sunny plains to work on the bleak

^s In 1619 it was computed that 53,500,000 ducats had been granted in *new* taxes alone since the year 1598; and that 100,000,000 had been extracted from the people by means of imposts which had been in existence previously; yet every source of revenue was irretrievably mortgaged. It was in the same year that the clergy were sent round from door to door to beg for contributions to relieve the necessities of the King! Ranke, Ottoman and Spanish Empire, p. 98.

mountain tops, and to yield up their lives in digging treasures not their own; how they staggered under the weight of precious loads over rocks where the feet of mules could never tread, and lay them down to perish of fatigue and utter misery. Then came a time when the ill-doing of the proud Lords of the West recoiled on their own heads; the numbers of their workpeople dwindled, cruelty murdered its throngs, and famine and pestilence joined to sweep away the children of the sun. Labour began to fail, and the Spaniard cast about to find a substitute for the Indian in lands which nature had severed from the new world, and which only the trade in man could have joined to it. The traffic in Negroes was commenced. It was introduced to arrest the extinction of the native races; and little did the founders of slavery think to what excesses it was destined to lead—little did they know over what wide regions it was fated to alter every relation of society. Europe has reaped no slight advantage from the metals of America. It should remember with sorrow that they have been purchased with the lives of many brothers. Yet we may not judge too harshly of those who first bridged over the Atlantic for the passage of slaves. They sinned; but they sinned more in error than by intention¹. If actions are to be approved or condemned upon a view of their motives alone, we must reserve our sharpest censures for those who introduced the commercial system which has prevailed in modern Europe. The attempt to discover America, the expedition in search of India, were protests on the part of the Spanish and the Portuguese nations against the monopoly enjoyed and asserted by Venice; yet no sooner had the latter reached the shores of Malabar, no sooner had the former touched the gold of Hispaniola, than they forged in turn the chains of a yet more jealous monopoly. If colonies have languished in the fetters of an exclusive commerce; if their people have chafed in discontent, till wars at last have separated them from their fatherland; if monarchs have poured out blood and treasure with useless prodigality to extend the limits within which they might shut out the competition of other nations, it is to the Spanish race that the acknow-

¹ For the humane intentions of the Government, with respect to the Indians, see Help's *Conquest of America*, passim; and *Recip. de las Leyes de las Indias*. It is a saddening proof how impossible it is to foresee the results which may spring from large experiments in government, however pure the intention may be on which they are based, that the humane Las Casas should have advocated an undertaking which has wrought so much woe in the past, and which is pregnant with such incalculable evil for ages yet to come.

ledgments of the world are due; and the quickness with which American trade has leapt forward from the time when the colonies won their freedom, until it has reached the pitch of greatness of which it now can boast, forms the best commentary on the policy which was so long pursued by every state, and demonstrates how European interests were vitally injured by the very jealousy with which they were guarded. But if Spaniards planted the germs of this system, theirs also it was to reap its bitterest fruit. It would be painful to linger over the abject spectacle which the nation offered under the last monarchs of the House of Austria. It was hardly less miserable, hardly less degraded during the century which followed the change of dynasty; yet the Bourbons imparted a faint life to the worn-out body, and a few tottering steps towards improvement were essayed, a few ameliorations effected, before the shock of French invasion came to infuse new ideas, and to sweep away in undistinguished ruin the good and evil of the ancient constitution. Napoleon presented himself to the inhabitants of the Peninsula, not as a master, but as a liberator; his acts may have belied his words, but no slight good was accomplished when the Inquisition fell, and when feudal rights, and the privileges of the Nobles, and private tribunals were cut away for ever from the affections of the people.

If it be destined that Spain shall yet rise from the lowliness of her place among nations, and shall assume a position worthy of her past glory, and of that which is lofty in the intellect and generous in the character of her sons, she will reflect with shame that her own strength was unequal to commence the work of regeneration, and that the first impulse in her new career was imparted through the humiliation of conquest. Whether a future of greatness be in store for her, or whether she is destined to remain a byeword for ever, no one can augur with certainty. She must at least pass through a long and weary probation before she can issue triumphant from the contest. The mistake of a moment is often avenged by the punishment of years; and centuries of misgovernment cannot be expiated but by ages of struggle and doubt.

